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Infant Death Rates in the United States

THE lowest infant death rate in the nation's history was recorded in 1939, according to preliminary tabulations made public today by the Census Bureau, Department of Commerce.

The 1939 infant death rate of 48.0 deaths per one thousand live births is based on 108,532 deaths of infants under one year of age. In 1938 there were 116,702 deaths which resulted in a rate of 51.0. The 1937 rate was 54.4 based on a total of 119,931 deaths. The record-breaking mark of 1939 represents the culmination of two decades of general decrease in infant motality.

Decreases in the infant mortality rate in 1939, compared with the previous year, were reported by forty-two states and the District of Columbia. The rate rose during the same period in six states. Minnesota's rate of 35.4 was the lowest last year. New Mexico, with a rate of 109.3 and Arizona, 95.5, reported the highest rates last year.

New "Blue Brand" Eastman Ultra-Speed X-Ray Film

INCREASED speed, with no sacrifice in other qualities, is offered in a new "Blue Brand" Eastman *Ultra-Speed* Safety X-ray Film, just announced from Rochester by the Eastman Kodak Company.

The new film, identified by a blue-top carton, is stated to offer definite savings in the x-ray department. It reduces wear on tubes, and the shortened exposure may be expected to decrease the number of remakes, necessitated when radiographs are spoiled by involuntary movement of the patient.

Radiographs on the "Blue Brand" Ultra-Speed film can be made with only three-quarters the exposure required by the older-type Eastman *Ultra-Speed* X-ray Film. Results are the same or superior; and important properties—the contrast, ability to record fine detail, exposure latitude, tint of the base, and uniformity—are stated to be identical with those that characterized the older-type film.

Medical Times

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The American Social Hygiene Association, Inc.

IN order that there may be a central source of information with regard to studies of the intravenous drip method of treatment of syphilis ("the five day treatment"), the American Social Hygiene Association at 50 West 50th Street, New York, has been asked to gather and to keep available information regarding this subject. The Association requests all physicians and hospitals which are planning or are now carrying on studies of experiments with this method of treatment of syphilis to send brief information regarding the following points to the Association at the above address: 1. Name of hospital or other institution. 2. Name of principal physician in charge of the intravenous drip study. 3. Type of case or cases of syphilis treated by the intravenous drip method. 4. Name of drug or drugs used: (a) By the intravenous drip method. (b) By any other method before, during or after intravenous drip therapy. (Mention any specific therapy used.) 5. Routine laboratory work done on cases of syphilis treated by the intravenous drip method. 6. Usual number of hours of intravenous drip treatment per day per patient. 7. Usual number of days of intravenous drip treatment per patient. 8. Any other pertinent facts.

The Association will be glad, so far as possible, to answer inquiries regarding the intravenous drip treatment of syphilis. The Association has available to physicians, upon request, a brief pamphlet on the subject of the present status of the intravenous drip method of treatment of syphilis, written by Dr. Charles Walter Clarke, Executive Director of the Association and a member of the New York City Committee on the Intravenous Drip Treatment of Syphilis.

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If a Black Widow Bites

NOW that summer weather is with us again, there is one summer visitor which will turn up somewhere, sometime, and let her unwelcome presence be known —the black widow spider.

This dangerous member of the spider family with the bright red hour-glass marking on her abdomen is distributed over most of the United States. Many bites occur every year with several deaths resulting.

Last year, the Mulford Biological Laboratories of Sharp & Dohme introduced a black widow spider antivenin which is indicated in the specific treatment of the effect of the venom from bites of this spider. It is supplied in lyophilized form so that its potency is assured for five years. With this specific antivenin now available for distribution throughout the country it will prove a helpful aid in preventing the serious toxic effects and possible deaths which follow the bites of the black widow.

✚

Venereal Disease Information

VENEREAL Disease Information, published monthly by the U. S. Public Health Service, presents a monthly digest of the important papers on diagnosis, treatment, pathology, laboratory research, and public health from the entire world. In addition, it publishes important special papers and reports by leading scientists. It is designed to keep both the specialist and the general practitioner informed of developments in the field of syphilology and urology.

This medical journal of venereal disease has been highly recommended by leaders in all fields of public health. In a rapidly developing and changing field of medicine, the physician interested in venereal disease control from the standpoint of differential diagnosis and treatment will find *V. D. I.* an important aid.

All orders should be directed to the Superintendent of Documents, Government Printing Office, Washington, D. C. Subscription fee, 50c per year.

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New *portable emergency Kit contains antidotes for* 140 Common poisons

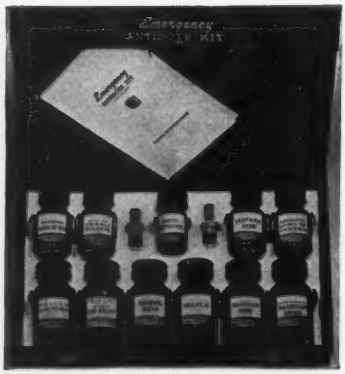
898 DEATHS
FROM
POISONING
IN NEW YORK CITY IN 1937
J.A.M.A. 113-493, Aug. 5, 1939

With the EMERGENCY ANTIDOTE KIT (Jacobson) You Can Instantly ADMINISTER ANTIDOTES FOR 140 OF THE COMMONER POISONS.

Poisoning cases happen suddenly —the patient is often in mortal danger. Time is usually precious —too limited to think long about the selection of an antidote; moreover you may lack the materials for its preparation. With the EMERGENCY ANTIDOTE KIT (Jacobson) you are INSTANTLY ready to administer the correct antidote in most of the emergencies of everyday practice. The Kit contains the antidotes and 34 page Manual of Instructions for 140 of the commoner poisons.

AN EMERGENCY AID THAT MAY SAVE A LIFE FOR YOU

ORDER IT C.O.D. NOW
USE FORM BELOW



ACCEPTED AMERICAN MEDICAL ASSN.

HANDSOME BLACK CASE 12"x7"x2"

Emergency Antidote Kit Co.,
30 Ann Street, New York, N. Y.

Please send me C.O.D. the *Emergency Antidote Kit* (Jacobson). I agree to pay $7.50 plus delivery charge on arrival.

Name .....

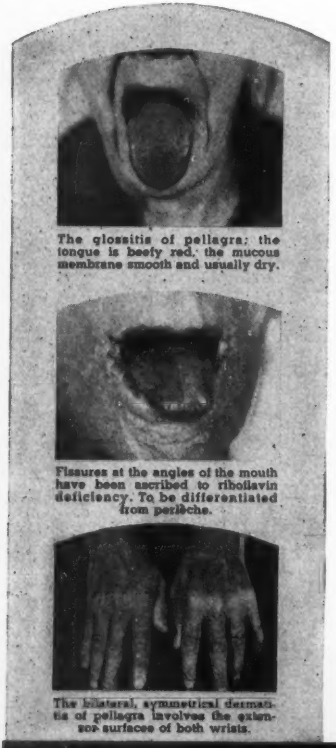
Address .....

.....

EMERGENCY ANTIDOTE KIT (JACOBSON)

MEDICAL BOOK NEWS

When the Clinical Picture of Vitamin B Complex Deficiency is Dominated by PELLAGROUS SYMPTOMS



The glossitis of pellagra; the tongue is beefy red, the mucous membrane smooth and usually dry.

Fissures at the angles of the mouth have been ascribed to riboflavin deficiency. To be differentiated from perlèche.

The bilateral, symmetrical dermatitis of pellagra involves the extensor surfaces of both wrists.

In frank pellagra, and in the subclinical stages so frequently encountered, Nicolexin produces prompt remission of the characteristic lesions and psychotic changes if the latter are present. Its nicotinic acid amide is therapeutically as effective as nicotinic acid itself, but is better tolerated, thus permitting administration of adequate dosage without unpleasant side actions.

Other manifestations of vitamin B complex deficiency often seen in the pellagrin—glossitis, cheilitis, polyneuritis, gastrointestinal affections—are usually amenable to the other components of the B complex provided in Nicolexin.

Prepared from vitamin-rich extracts of liver and yeast with added nicotinic acid amide, riboflavin, and thiamin chloride, Nicolexin presents in each capsule approximately 20 mg. nicotinic acid amide, 50 Sherman units vitamin G (riboflavin), 100 International units vitamin B_1, and, according to the methods of assay employed, 40 Jukes-Lepkovsky Filtrate Factor units and 100 gammas vitamin B_6.

NICOLEXIN is available in bottles of 50 and 500 capsules

THE UPJOHN COMPANY

Makers of Fine Pharmaceuticals Since 1886

KALAMAZOO, MICHIGAN

UPJOHN

Triumphantly Arrived—
The Aspirin Lollipop

IT has remained for a New York City corporation to achieve the last full measure of devotion to the country's needs in the shape of an aspirin lollipop. Sucking this, like the lotus-eaters in Homer's Odyssey, one may forget all minor aches and pains and ease annoying tensions by a kind of pharmacological masturbation.

Commercial man has always contrived to exploit narcotics and analgesics whereby profitably to assuage the everyday ailments and anxieties of the mob. No doubt when Odysseus landed in ancient Cyrenaica there was some entrepreneur who, for a stiff price, supplied the addicts with a secretly processed juice of the lotus whose magical charm soothed the Libyan herd and besotted the crew of Odysseus.

The history of alcohol is a familiar chapter in the age-long quest for physical and mental solace on the part of weaklings lacking the fortitude of normal men whereby to meet, albeit inadequately and perilously, the stresses and strains of a trying world. Nothing needs to be said as to exploitation by commercialists in this field.

Then opium comes to mind, with British exploitation forming a dark chapter in the record.

Drunkenness and downright narcotism have their limitations in the world of the present; it is often inexpedient to be drunk or doped. What the world needs much more than a good five cent cigar is something which simulates the effect of alcohol without its gross intoxicatory effects. Aspirin supplies this need "admirably," even to the warm surface glow so definitely associated with the physiologic action of alcohol.

The conquest of man by the cigarette is in itself an epic chapter in exploitation.

Last word in the glorious succession is aspirin, fabricated and for long dumped upon the American market by the Germans. Jay Gould, before buying in his railroads at a cheap figure, used first to depreciate their stocks by a systematic campaign of vilification as to the safety and efficiency of the roads carried on in the newspapers which he bought for this explicit purpose. Perhaps the Germans' aspirin was unwittingly (?) the opening gun of an American blitzkrieg.

Let the cigarette take care! Its supremacy may yet be threatened by the aspirin lollipop, which promises to hang from every face in lieu of its competitor for the favor of hoi polloi; for after all, considered as the needed lotus of today, the aspirin lollipop would seem to have points —*and you can't smoke in the subway!*

As to the children of men, it is not only bombs and diving Stuka planes that attack them today. Some of the insidious weapons used against them for a profit are just as formidable.

Behold The Poor Architect

THE private practitioner of architecture seems to be already feeling, in advance of the physician, the effect of encroachment of political bureaucracy. So one must infer from the report of a committee recently made to the American Institute of Architects.

The bureaus in question have tended to become "avenues of political patronage" and the structures erected have been of

"poorer design" and higher cost than similar edifices designed by private practitioners.

The report stated that "the difficulties are most acute in the largest centers of population. There, bureaucratic professional practice is most deeply entrenched. The architect 'on his own' is being harder pressed and crowded back into an ever-narrowing field. He is losing his business and the public is not receiving the fullest value possible in service or in the quality of design of public buildings."

It is further suggested by the report that investigation and audit of such bureaus would perhaps yield interesting data for consideration by taxpayers.

One does not have to be a prophet or the son of a prophet to presage accurately the future of medicine should it ever experience the same kind and degree of bureaucratic encroachment.

The experience of the architects is highly significant for the medical profession.

Why Certain Medical Appropriations Are Reduced

WE see signs here and there that the intensive abuse of the medical profession in the attempt to force it into the "party line" has been effective.

B. Garrison Lipton recently emphasized in the *New York Medical Week* (19:14, April 20, 1940) that the public mind is being so poisoned and vitiated by distorted and lying propaganda that it may soon be impossible to counteract it. The current barrage of sordid abuse continues unabated and is not directly combated.

The difficulty of securing sufficient funds for the most worthy medical projects, such as research, libraries and hospitals entitled to support, is a measure of the success of our traducers. Such withholding of needed funds may be charged up to our loss of prestige and a decent degree of community power, and to the intention of bringing further pressure to bear upon us.

When the pursestrings are held by persons who believe in medical bolshevisation it is just too bad for the chief victims—the sick.

Some Side Lights on Vascular Peristalsis

SINCE vascular peristalsis finds its chief physiologic analogy in intestinal peristalsis, it is not surprising that prostigmine, which stimulates the latter, has proven useful in conditions in which one may surmise that interruption of the former plays some part, for in both cases it is unstriped muscle that is involved.

Perlow (*J.A.M.A.* 114:1991, May 18, 1940), reporting on the successful use of prostigmine methylsulfate in the treatment of peripheral circulatory disturbances, ascribes its good effects to vasodilatation in cases attended by vascular spasm. He says nothing about the possible vasotonic effect of prostigmine upon vascular peristalsis as an equally likely cause of the improvement in circulation. We venture to present such a suggestion in view of the known effects of prostigmine upon the unstriped muscle of the bladder, intestine and blood vessels. Is it not upon a *restoration* of vascular peristalsis, after all, that *sustained* improvement in such cases chiefly depends? What good is mere dilatation if not supplemented by propulsive action of rhythmic, unspasmodic character?

We find Soskin, Wachtel and Hechter (*J.A.M.A.* 114:2090, May 25, 1940) treating delayed menstruation successfully with prostigmine methylsulfate and very nearly invoking vascular peristalsis as the explanation of their good results, for they state that the important role of hyperemia in the estrous phenomenon suggested to them that delayed menstruation might be

due to "lack of vascular response" rather than to endocrine dysfunction. It would seem that prostigmine acts in these cases by stepping up vascular peristalsis.

Incidentally, Keys and Hatcher (*J.A.M.A.* 114:2089, May 25, 1940), in a discussion of visible pulsation in retinal arteries, argue against the common view that such pulsation is always pathologic. These authors state that the most favorable place to see pulsation is at a bend in the course of a tortuous artery and that at such a location a decided lateral movement of the artery is usually visible.

Superior Preparedness of South American Hospitals for the Treatment of Poisoning

THE *Journal of the American Medical Association* recently (114:1945, May 11, 1940) carried the following information anent the organization of a movement for the control of poisoning in the Argentine:

Control of Poisoning in Buenos Aires

For some time a movement has been under way to reduce, in a systematic way, deaths from poisoning, both suicidal and accidental. The idea originated with Dr. Atilio R. Maggiolo, of the Hospital Teodoro Alvarez, who tabulated the poisons commonly used and constructed a cabinet containing the necessary antidotes and apparatus. The whole plan has now been adopted by the Asistencia Pública on the initiative of Dr. José W. Tobias, its director, and introduced into all hospitals served by this agency. A chart designating the poisons and their antidotes is part of the chest and enables prompt identification of the poison and its medication. The plan has been placed at the disposal, without charge, of the remaining Argentine provinces and territories, of practicing physicians and of foreign countries requesting the information.

We have read Dr. Maggiolo's articles in the Buenos Aires medical journals *La Semana Médica* (1:631-632, March 16, 1939) and *Día Medico* (11:668-669, July 24, 1939). These articles, and the movement to control poisoning, should be of very great interest to all who have anything to do with the administration of our own hospitals. The first article of Dr. Maggiolo is a preliminary announcement, with an illustration of the large cabinet which the author devised in 1937 for instalment in hospitals, containing all the apparatus and classified materials which might be needed in the treatment of poisoning, while the second article shows a comprehensive chart on which are listed (with cross references) 124 kinds of poisoning with directions for dealing with them. This chart seems to us to represent a most admirable effort to achieve a comprehensive and practical system of treatment whose ready availability in the face of tragic circumstances should make the Argentine hospitals' staffs feel that they are properly prepared for practically all toxicologic eventualities in their quarter of the globe.

Such highly commendable solicitude on the part of a great state for the welfare of its citizens poisoned by accident or design might well stimulate some other governmental units on this continent to emulate the superior technique of our South American colleagues. What possible reason exists for any lag in this challenging field?

The American Social Hygiene Association, Inc.

RECOGNIZING the importance of informing the druggists of the country in which ways they can best cooperate in the campaign against venereal diseases, the Houston Retail Druggists Association, the New Jersey Pharmaceutical Association, the California State Board of Pharmacy, and the Springfield Pharmaceutical Association, following closely upon a survey of illegal and unethical practices in the diagnosis and treatment of syphilis and gonorrhea by the American Social Hygiene Association, have passed resolutions asking for closer cooperation between physician and druggist.

THE ROLE OF ANOMALIES IN THE *Surgical Affections* OF THE KIDNEY AND URETER

AUGUSTUS HARRIS, M.D., F.A.C.S.
Brooklyn, N. Y.

THE writer has chosen this topic to emphasize the important part which congenital malformations play in diseases of the upper urinary tract. Our desire to stress the subject is based upon the fact that, only in recent years, have urologists fully appreciated the frequency with which these lesions occur. We believe the urologist is naturally and properly becoming more and more anomaly-minded and we wish physicians and surgeons in other fields to be constantly aware of their comparatively frequent incidence. Increasing numbers are being identified and recorded. This is not only the result of the wider use of intravenous urography and retrograde cystoscopic pyelography, but also because of the greatly increased number of examinations being made with the natural growth and development of urology as a specialty. There was a time when these anomalies were discovered largely at autopsy and their recognition was chiefly a matter of academic interest.

Congenital defects elsewhere in the patient, especially of the internal and external genitalia, may be suggestive of the presence of renal or ureteral malformations. These defects must always be regarded as a warning for careful investigation.

WHILE a goodly proportion have been consistent with life and health, we recognize that many have been associated with varying degrees of obstruction to the flow of urine from the kidney and ureter. Consequent urinary stasis, hydronephrosis, infection, calculi and pyonephrosis have resulted. It is generally conceded that malformations predispose to these lesions.

One of the greatest strides of urology has been the development of conservative surgical procedures with the conservation of a kidney which formerly would have been sacrificed or allowed to progress to its ultimate destruction. We are accustomed always to think in terms of urinary obstruction when pain referable to the upper urinary tract is encountered; even also in atypical types of pain appearing in different parts of the abdomen or back. An example of unusual type of pain is found in the following: A year ago a patient with pyuria consulted us for a dull "pressure-type" of pain in the lower abdomen and genital regions. The pain had existed for seven years and was gradually growing more severe. The "dull, aching pain" was aggravated by the sitting posture and usually disappeared entirely on standing. There were no urinary symptoms. Because of the type of pain and negative findings on physical examination, we suspected an anomaly, because of the pyuria. Urography showed a horseshoe kidney. The patient's clinical history in this case pointed the way to precise diagnosis. He had been treated for a period of over a year by prostatic massage, by a trained urologist, without relief. He has been greatly relieved by ureteral catheterization. This is a rare exception to the rule that pain of renal origin is usually

Read before the Pan-American Medical Association, Brooklyn, N. Y., February 29, 1940. From the Department of Urology, St. John's Hospital, Brooklyn, N. Y.

not caused or aggravated by changes of posture. However, very acute infections or marked renal mobility may obviously be aggravated in this manner. In our experience, pain produced or aggravated by change of posture almost always indicates a skeletal lesion of which sacro-iliac strain or subluxation is the most common example. We have been requested to examine many a patient with pain in the region of the kidney, ureter and lower abdomen, due to sacro-iliac strain, where localized tenderness was elicited in the upper part of the sacro-iliac joint, typically exaggerated by muscular effort and change of position, and with no indication of urinary-tract pathology.

A FAIR number of anomalies may offer symptoms readily confused with appendicitis, biliary tract disease, gastro-intestinal obstruction, as well as lesions of the female pelvic organs. It is not surprising, therefore, that unnecessary major abdominal operations have been performed under mistaken diagnosis. Moreover, it is a well-known fact that the renal nervous mechanism of a diseased kidney or ureter may produce digestive tract symptoms. These lesions may masquerade as intraperitoneal lesions in as high as ten to twenty per cent of cases. The use of intravenous urography as a preliminary to radiography of the gastro-intestinal tract in all questionable cases will greatly assist in avoiding errors in diagnosis.

Time does not permit a review of the embryological development of the upper urinary system. Suffice it to say, when one weighs its complexity one would expect frequent variations from the normal. One has only to refer to the more recent literature, or the classification of the American Urological Association, to fully appreciate the very large number and variety of deviations from the normal. Certain rare types are not classifiable.

AMONG the most common anomalies associated with obstructive symptoms and signs are stenosis or stricture at or near the ureteropelvic junction, and aberrant artery or vein. These conditions frequently produce varying degrees of hydronephrosis on both sides. This increases the potential gravity of the problem and may tax the surgeon in their management. Interstitial periureteral bands are frequently present.

With the aforementioned conditions, one cannot prophesy from the evidence on pyelography as to the precise type of obstruction which may be found at the operating table. The sharp cut-off appearance with interruption of the path of the medium is most frequently indicative of aberrant renal vessel. Section and ligation of a small or moderate-sized artery or vein may provide relief (where the kidney is preserved). A rubber covered clamp applied not too firmly to the accessory vessel for several minutes will indicate the amount of effect on the circulation of the kidney. Larger vessels may require some other type of procedure rather than ligation, which may involve too great sacrifice of renal parenchyma. While palliative treatment by catheter dilatation for congenital non-calculous types of ureteropelvic junction has had some measure of uccess, this method has not infrequently failed to provide adequate or lasting relief. A plastic operation on the pelvis may then solve the problem of providing free drainage. This operation is proving to be increasingly successful in this country in the hands of many operators where, previously, relief could only be afforded by nephrectomy. Secondary nephrectomy for failure after Y plastic procedures is much less frequent. We have performed about thirty operations of this type. To our knowledge, nephrectomy has not been subsequently required in any. The coexistence of stenosis or stricture of the ureteropelvic junction with periurethral bands and even an aberrant vessel may be found at operation. All potential factors of obstruction must be corrected at the same time. In patients of advanced years, or those of poor surgical risk, plastic operations have little or no place.

The surgeon may be confronted with the necessity of performing a plastic or other type of operation on the renal pelvis of an obstructed kidney whose mate is con-

genitally absent or whose mate has previously been removed.

About three years ago we were faced with this problem of performing a plastic operation to provide adequate drainage for hydronephrosis caused by stenosis of the ureteropelvic junction. All tests confirmed congenital absence of the opposite kidney. For a week after operation all urine was drained from the flank. When the catheter "splint" was removed the wound healed rapidly and the patient has enjoyed excellent health since that time.

HEMINEPHRECTOMY for so-called double kidney, really double pelvis, has proven to be successful, where the diseased segment of kidney and ureter can be removed leaving a healthy functioning half.

We include such a case of heminephrectomy for resection of the upper diseased half of kidney and pelvis obstructed by stricture referred by Dr. J. T. Pilcher and operated upon two years ago with excellent result.

Reduplication of pelves and ureters of various types is quite common. In point of frequency unilateral partial bifurcation is most frequent; next bilateral partial bifurcation. Unilateral partial duplication on one side with complete duplication on the opposite side is the next most frequent. The rarest of all is complete duplication of the ureters and pelves. We have slides of this last anomaly discovered during routine examination and treatment of a patient with pyelonephritis of pregnancy. They show no evidence of mechanical obstruction present. More frequently no surgical treatment is required for the various types of ureteral duplication, except where definite obstruction is associated with resultant symptoms and urographic signs. Certain of these are improved by ureteral catheter dilatation.

Duplication of the ureter with one branch ending blindly is another rare type of condition which may cause obstruction by pressure on the normally-developed ureter, pelvis, and kidney. We have previously operated upon two patients, removing the blind-ending stump with resultant complete relief of all symptoms (reported in *Journal of Urology*, 38:442-454, Nov., 1937).

The possibility of congenital absence of one kidney (renal agenesis) must always be borne in mind. When a surgeon is confronted with an emergency of traumatic contusion or laceration of the kidney, intravenous urograms should be taken promptly. This will, at once, indicate whether or not the opposite kidney is congenitally absent (renal agenesis). In this instance nephrectomy for renal injury will obviously result in the removal of all kidney substance. A few years ago we had the problem of treating a patient for traumatic laceration of the kidney with hemorrhage, in which the opposite kidney was congenitally absent. The patient fortunately did not require open operation.

WITH regard to the removal of calculi occurring in a horseshoe kidney the operator usually encounters little or no technical difficulty. Greater caution must always be exercised during mobilization of all types of anomalous kidneys and exposure of the organ, because of the frequency of supernumerary vessels which may be accidentally ruptured. We have removed calculi (from horseshoe kidneys) in several instances without accident and have successfully divided the isthmus in one case with improvement of urinary drainage.

Shadows indicative of the possibility of calculi, occurring in an abnormal location, must always be considered from the standpoint of renal malformation or ectopic kidney. This applies also to a palpable mass anywhere in the abdomen or in the cavity of the true pelvis. For example, we are aware of two patients in whom surgeons made a presumptive diagnosis of ectopic kidney, subsequently confirmed, by palpating a smooth rounded mass on vaginal or rectal examination low in the pelvis and somewhat posteriorly placed. Where pyuria is present in such types of cases early cystoscopic investigation is always indicated. Obscure persistent pyuria in children should also be approached in the light of a possible anomaly as the underlying mechanical causal factor.

THE urologist must be on his guard for the presence of multiple ureteral orifices. One or more supernumerary orifices or an ectopic orifice may be easily overlooked with resultant failure to catheterize for detailed study and injection of opaque medium. Chromocystoscopy or the intravenous use of indigo carmine may prove a valuable aid in such instances. In exceptional obscure cases, two or even three cystoscopic studies may be required to obtain complete and accurate diagnosis. With bifurcation of the ureter at its caudal end, injection of the opaque medium just within the vesical orifice with a large catheter may be the only means of obtaining the required information.

While intravenous urography is frequently a valuable aid in delineating anomalous deviations, the method may fail completely in visualizing that kidney or portion of the kidney and its pelvis, where obstruction and disease-change cause a failure of the intravenous medium to concentrate and appear on the radiographic film. We have learned from experience of the not-infrequent value of radiographs taken as long as one, two and even three hours after intravenous injection of diodrast. Where disease and damage to function are not too advanced, late films may give valuable information which is otherwise unobtainable with excretory urography. It should be stated that failure of the intravenous medium to appear on the films, taken at the usually-accepted intervals, does not necessarily indicate that the kidney, or part of the kidney involved, is destroyed and requires removal.

An ectopic kidney frequently fails to concentrate the intravenous medium in the usual intervals or it may not concentrate at all. A certain case is recorded in which the surgeon searched for a long time and failed to find the kidney during operation for intended nephrectomy by the flank approach. He had not performed complete cystoscopic study before operation and did not know the kidney was in the cavity of the true pelvis.

Nephrectomy is often required for relief of pain in ectopic kidney even in cases where calculus or chronic infection is not present. In our opinion transperitoneal approach is much more logical and ideal than the extraperitoneal route. Moreover, multiple accessory vessels may limit the mobility of the organ to a considerable degree.

SPACE does not permit a consideration of all the types of anomalies. The fused varieties have been fully described and classified recently by Wilmer in seven forms. Aberrations of renal vessels are very numerous. Stenosis and stricture of the caudal end of the ureter, as well as ectopic ureteral orifice in vagina, urethra, or elsewhere, and ureterocele are also deviations under this subject. Anomalies of the vesical neck and bladder itself also produce upper urinary-tract disease. Incontinence of urine may rarely be found to be the result of an ectopic ureteral orifice located below the level of the compressor urethrae muscle (male or female).

It is well to recall that a rare combination of malformations in the urinary tract may occur in the same patient. We believe that all anomalous deviations must be thoroughly studied and with even greater scrutiny than with others. Intravenous urography alone should never be relied upon, but always amplified by all detailed data obtained by complete cystoscopic examination, blood chemistry, and other functional studies. This particularly applies to those where prospective surgical measures are contemplated.

A word of caution should be sounded as to the remote danger of fatal accident following the intravenous injection of opaque medium. In spite of the fact that very many thousands of injections have been given over a long term of years without untoward effect, three recent fatalities have been reported in the literature, one of which followed the injection of only 4 cc. of fluid. Asthmatic and allergic types of patients and those sensitive to iodine should be handled with special caution, even though the solution is presumably a fixed iodine compound. The solution should always be injected very slowly.

Summary and Conclusions

1. Congenital malformations of the

upper urinary-tract are of much more frequent occurrence than commonly supposed and play an important role in diseases of the kidney.

2. These lesions are more commonly not discovered until the third and fourth decade of life.

3. A variety of anomalies of the kidney and ureter have been discussed from the standpoint of diagnosis and management.

4. While a goodly proportion of these cause no functional difficulty, they predispose to obstructive lesions, and not uncommonly become associated with calculus, hydronephrosis, infection and even pyonephrosis.

5. These conditions may masquerade as intraperitoneal lesions on the basis of the renal digestive reflex.

6. Errors in diagnosis and unnecessary surgery are more likely to occur in this group of lesions.

7. In the presence of obscure abdominal symptoms and physical signs, early and complete urological investigation should always be made.

8. Great advances have been made in the conservative surgery of the kidney and ureter, particularly in the past decade, resulting in the saving of a kidney and ureter, or part of a kidney, which formerly would have been sacrificed or allowed to progress to its ultimate destruction.

9. One must always be mindful of the rare possibility of congenital absence of one kidney (renal agenesis) in all cases of traumatic contusion or laceration of the kidney; also whenever operation on the kidney or ureter is under consideration.

10. In view of recently-reported fatalities following intravenous injection of opaque medium in urography, greater caution should be exercised (with very slow injection), especially in any allergic or asthmatic type of patient.

306 Park Place.

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Treatment of RECTAL BLEEDING

CHARLES J. DRUECK, M.D., F.A.C.S.
Chicago, Ill.

BLEEDING from the anus, however slight, should never be treated without a thorough rectal examination. In this manner, many cases of early and even advanced cancer of the rectum may be discovered, which otherwise might be passed as "bleeding piles."

The immediate treatment of bleeding from the rectum falls into two categories, depending upon whether the hemorrhage is of such magnitude that symptoms of shock develop in rapid order, or whether the hemorrhage is in itself not severe but rather a sign directing attention to the lesion causing it.

Massive Hemorrhage

MASSIVE hemorrhage, which in a relatively short time is fatal, is rare, but hemorrhage of sufficient magnitude to produce symptoms of shock is occasionally met. In the latter instance immediate treatment is concerned with supportive measures.

1. The patient is put to bed as quickly as possible and as near the place of the

accident as is convenient with the minimum of transportation. Long automobile or train rides, so that the patient may reach his home or a hospital, are hazardous.

2. Only a bland liquid diet is permitted for 48 hours.

3. Sedation by means of morphine sulfate ¼ grain hypodermically and the constant attendance of a good nurse are of the utmost importance.

4. The application of an ice bag over the suspected abdominal region is a time-honored procedure, but is of questionable value. An intramuscular injection of 10 cc. of 10 or 20 per cent calcium glucose injected deep into the gluteal muscle may be given and repeated in two hours and again in four hours.

5. Blood pressure and pulse rate recordings should be taken every half hour as a means of gauging the severity of the shock due to the loss of blood. The continued drop in blood pressure with increasing pulse rate may be an indication of further bleeding before it becomes manifest as hematemesis or melena. Blood counts at the time of the hemorrhage give no information.

6. The indication for parenteral fluids or blood depends upon the general condition of the patient and whether the bleeding continues or has ceased. Obviously, rapid intravenous injections in the presence of intestinal ulcerative lesions are contraindicated, as these would raise the blood pressure, which in turn would favor renewal of the hemorrhage.

Hypodermoclysis of Ringer's solution or isotonic saline solution may be started shortly after the patient is put to bed and administered slowly so that 1½ to 2 hours are required for the injection of 1500 cc. This may be repeated in six hours. If there is evidence of continued hemorrhage, blood transfusions are indicated and should be administered in amounts of 100 to 200 cc. at intervals of one to two hours rather than a large transfusion (500 to 700 cc.) in a relatively short period. Continued severe bleeding may require more rapid replacement of blood and fluids. The only guiding principle in parenteral therapy is that a certain degree of shock is to be expected and accepted, and remedial measures are to be so chosen and timed that over-enthusiasm does not defeat its own objectives.

Anal Hemorrhages

BLEEDING at the anus may be stopped with hemostats or ligature. Hot compresses held firmly against the anus are sometimes sufficient.

Rectal Hemorrhage

INJECTIONS of sclerosing solutions such as quinine and urea hydrochloride into the hemorrhoidal mass provide such a sure method of stopping the bleeding of internal hemorrhoids that it should be the treatment of choice in every case where the patient's condition will not permit radical treatment. Operation can always be resorted to after the patient has improved sufficiently to make it an entirely safe procedure, although cure can be effected in certain cases by continuing the injections for a sufficient length of time. Certainly it is foolish to attempt to treat a secondary anemia while the patient continues to bleed from his piles.

BLEEDING from the rectum in young children is not infrequent and often is ascribed to piles, a condition of extreme rarity during this period of life. Generally, on investigation, a polyp will be found in the rectum or sigmoid which is causing the symptom. Due to the poor development of the sphincter ani in childhood, it is not difficult to introduce a proctoscope or sigmoidoscope provided the child's struggles are controlled. No anesthetic is necessary because the area above the anorectal line is without sensory nerves and thus the growth may be amputated or it may be ligated and allowed to slough off. Likewise, in adults benign tumors of the rectum or sigmoid, pedunculated or sessile in form, papillomas or adenomas in type, may give rise to the symptoms of bleeding. Many of these can be removed with a snare, similar to the tonsil snare, cutting through the growth very slowly in order to control the bleeding.

Hemorrhagic proctitis is best treated by

swabbing the hemorrhagic areas with fuming nitric acid to produce fibrosis followed by a superficial scar which toughens the mucous membrane and which prevents any further abrasion that may cause bleeding. Rectal irrigations of 5 per cent nitrate of silver, or of the colorless hydrastis solution, and calcium lactate or chloride internally, may be of service.

Every hemorrhoidal patient should always have a proctoscopic examination because in any large series of unsuspected cases, papillomas and even carcinomas of the rectum and sigmoid colon will occasionally be discovered.

Colon Hemorrhage

PAPILLOMA or other pedunculated benign tumors of the colon, single or multiple, may be the cause of sudden severe hemorrhage or continued loss of small quantities of blood over prolonged periods. Diagnosis is possible by fluoroscopy if the lesions are in the sigmoid or above and if they are sufficiently large to produce filling defects. The lesions may be visualized through the proctoscope if they are low in the sigmoid or in the rectum. When situated high in the colon, laparotomy for excision is indicated, or a single large papilloma may be removed by colotomy. Fulguration through the proctoscope may be possible in low tumors. Segments of the colon exhibiting several bleeding papillomas are best resected, not only in order to arrest bleeding, but also because such lesions constitute a precancerous condition.

Carcinoma of the colon produces varying degrees of secondary anemia. This is due to continued loss of small quantities of blood over prolonged periods. The blood is passed with the feces or there may be stools composed for the most part of mucus and blood. In some instances, especially with carcinoma of the cecum or ascending colon, there may be a very severe degree of anemia without the patient giving a history of much loss of blood with the stool. Such cases have raised the question of whether some types of colon carcinoma elaborate a factor which markedly inhibits hematopoiesis.

Occasionally carcinoma of the colon may be the cause of sudden hemorrhage which is of sufficient magnitude to produce shock and thus call for emergency treatment for the loss of blood. The magnitude of the hemorrhage does not always parallel the size of the neoplasm, as small carcinomas may give rise to severe hemorrhage as a first sign and patients with large tumors may not be aware of passing blood per rectum. Treatment of bleeding of carcinoma of the colon is excision of the mass according to its location.

Small Bowel Hemorrhage

CARCINOMA of the small bowel usually presents obstructive signs early, but a marked secondary anemia may be the principal finding even before obstruction occurs because of the continued small hemorrhages which will be found only as occult blood in the stool. In such cases, the small bowel neoplasm may be found only on exploratory laparotomy.

Bleeding of Gastric and Duodenal Origin

SEVERE hemorrhage is not often due to carcinoma of the stomach, but continued loss of small amounts of blood in the stool is the rule; small to moderate hematemesis may occur. The treatment is resection of the stomach.

Peptic ulcer may produce massive hemorrhages from the rectum, more commonly in the chronic ulcer, when the erosion opens an artery. Chronic ulcers with irregular outline, indurated edges and ragged margins may persist for years without any attempt at healing. The classical gastric ulcer when it bleeds and fills the stomach with blood produces hematemesis, but in the case here reported such was not the case, melena being the first sign of disease. Pain is also a cardinal symptom, but this patient had no pain or vomiting. The patient usually feels faint, turns pale, and sweats; and the next day the stools are tarry from the blood passed into the small bowel. This patient fainted and the next stool (within a few hours) was tarry. There was no pain or rigidity. The profuse hemorrhage

as an initial symptom is more characteristic of duodenal ulcer.

Mrs. E. B., aged 57 years, had an urge to go to stool following a hearty dinner. On her way to the toilet she fainted and after recovering consciousness she had a large black mushy stool. Two days later when she came for examination, the rectum and sigmoid were still filled with old bloody stool. Blood count: red cells 5,100,000, white cells 9200, Hb. 74. The rectum and sigmoid were thoroughly washed clean, but no bleeding source could be found. An x-ray of the gastro-intestinal tract showed a large filling defect in the pyloric end of the lesser curvature of the stomach. Also there were multiple diverticuli throughout the colon. She was referred back to her physician for ulcer treatment.

MASSIVE hemorrhage occurs in about 25 per cent of duodenal ulcers. The danger from it increases with the age of the patient and the duration of the ulcer. Some patients have repeated hemorrhages, others but one.

So variable are the complaints of ulcer patients that a satisfactory composite picture is very difficult.

Occasionally a large hemorrhage occurs without demonstrable lesion at operation or autopsy. The bleeding may be sudden and profuse and as much as a liter or more may be lost in a short time. In such cases the symptoms are those of any large hemorrhage—weakness or collapse with vertigo, dimness of vision, rapid feeble pulse and low blood pressure, or there is actual unconsciousness. Blood may be vomited, but sometimes it is undetected until a large "tarry" stool is passed; this is especially so with duodenal ulcer. On the other hand, there may be slight continuous or repeated bleedings which reveal themselves by progressive weakness and anemia and by the finding of occult blood in the stools.

The majority of peptic ulcers probably bleed at some time or other during their life history; obvious clinical evidence is present in about one-fourth of the cases.

58 EAST WASHINGTON STREET.

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MEDICAL PROBLEMS IN *Dentistry*

ALBERT F. R. ANDRESEN, M.D., F.A.C.P.

Brooklyn, New York

THE careful clinician is interested in the condition of his patient's mouth, not only because the mouth may present local manifestations of systemic diseases, of deficiency states, of endocrine dyscrasias or of metabolic disorders, but because the teeth so often show conditions which may seriously affect the health and even the life of the individual. In this discussion I shall confine my remarks to a consideration of the teeth as so-called infective foci, acting as the exciting cause of many chronic diseases.

ALTHOUGH the connection between localized infections in the teeth, tonsils, sinuses and pelvis, and generalized or distant diseases had long been recognized, Billings and Rosenow first called direct attention to the relationship, and Rosenow's work particularly acted as the greatest

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stimulus to research in this field. Rosenow in 1913 reported that he had injected into the circulation of experimental animals material from infective foci in teeth, tonsils and elsewhere and this had produced lesions in the stomach, gallbladder, appendix, colon, kidneys, heart, joints and muscles of the animals. Cultures from the secondary lesions showed the identical organism, the *Streptococcus viridans,* which had been present in the original foci, leading Rosenow to the conclusion that the *Streptococcus viridans* was the specific cause of the various chronic diseases produced in this manner. Clinical studies by various investigators seemed to confirm Rosenow's contentions and in 1915* I reported a series of 200 clinic and private cases, including peptic ulcer, chronic cholecystitis, and chronic appendicitis, in all of which definite focal infections had been found and in which the *Streptococcus viridans* had been obtained on culture. Fifty of these patients, into whom autogenous vaccines had been injected, had shown not only general reactions, but also local exacerbation of symptoms and findings in the areas of focal infection and in the secondary foci. I then called attention to the importance of removal of all foci if any lasting results were to be expected and pointed out that a new form of therapy and an important prophylactic measure for the treatment and prevention of certain hitherto intractable chronic diseases had been discovered.

Laboratory investigations did not invariably confirm Rosenow's findings. Although some workers reported the finding of *Streptococcus viridans* in focal infections of patients with various chronic diseases, and found that injection of these organisms into animals produced similar lesions, many reported that they were unable to get these results. It should be noted that Rosenow's work was done mainly with injection of scrapings from the teeth, tonsils or other foci, or, when cultures were used, not only the organisms, but also some of the culture medium, were injected. In other words, there were usually present in the injected material not only bacteria but also other substances of a protein nature. Bacteria alone were not necessarily the only factor involved in the production of the lesions.

EVEN before Rosenow's original reports there had been working in New York a man whose years of painstaking research have never gained the recognition they merited. Fenton B. Turck, engaged in a study of the causes of shock, and finding that true shock is always accompanied or caused by severe injury to tissue, experimented with extracts of dead animal tissue, injecting such extracts into animals and producing the typical symptoms and pathological findings of shock. Then, by starting with minimal doses and giving increasing quantities of this extract, which he called "shock-toxin," he found that he was able to immunize animals to shock, so that severe injuries, usually resutling in the sudden death of such animals, would produce no shock at all. In the animals killed with shock-toxin in large doses he found the usual widespread distribution of areas of focal necrosis, but in those given the small, sublethal doses he occasionally found small isolated areas of focal necrosis, which, when located in the stomach, produced typical lesions of what had previously been called "chronic indurated gastric ulcer" or when located in other tissues produced changes typical of chronic diseases in the joints, kidneys and elsewhere. Turck never was able to determine what was present in the tissue extract that caused these reactions, but called the theoretical substance "cytost." He pointed out that the changes were produced instantaneously and simultaneously in the various tissues involved and suggested that they resembled electrochemical reactions. Whether the changes might have been due to an allergic reaction, whatever that might be, was also suggested. Six months before his death after a meeting of The American Gastro-Enterological Association, at which Dr. Turck spoke on his finding of peptic ulcer after injection of cytost, I suggested to him that in areas of focal infection there is a death of tissue and that absorption of cytost from such areas might

* Andresen, Albert F. R., *Long Island M. J.* 10:102-107, March, 1916.

easily explain the relationship between focal infection and the various diseases which Rosenow and so many clinicians had found associated with it. It was only in his last book "The Action of the Living Cell," published posthumously, that he acknowledged the possibility of such an explanation for the phenomena associated with focal infection. This explanation would account for many of the discrepancies in the work on focal infection.

IN the past few years it has become fashionable for certain doubting Thomases to cast aspersions upon the whole theory of focal infection. In the face of the almost invariable history of a relationship between activity at a focus and the onset or exacerbation of symptoms of the chronic diseases which have been shown to be caused by focal infection, in the face of the many brilliant results in the treatment of such conditions and prevention of their recurrence by removal of focal infections, and in the absence of any suggestions for treatment giving comparable results, these detractors go about the country reporting their unsuccessful cases in an effort to prove the falsity of the theory of focal infection. It is therefore necessary to philosophize on this subject, to attempt to explain some of the discrepancies and disappointments.

If the theory of focal infection as a cause of so many chronic diseases is true, whether the mechanism consists of actual absorption and transference of bacteria, the absorption only of "cytost" or the production of an allergic reaction elsewhere, later followed by migration of bacteria to a soil prepared for them by tissue necrosis, then certain facts are self-evident. First, if only one infective focus is present, its removal should be accompanied by a brilliant cure or alleviation of the secondary disease caused by it. This rather rare state of affairs would account for the occasional cures reported after removal of tonsils or of one infected tooth. Secondly, if multiple foci are present, with absorption from all of them going on at once, it is obvious that no definite or permanent improvement could be expected until all infective foci had been eradicated. In such cases at times patients may report improvement after removal of a single focus, but this may be due to psychic or other factors. In some cases removal of one focus may actually cause a violent exacerbation of symptoms or a new involvement, possibly due to an increased sensitivity to the remaining foci. Thirdly, there is no sense in advising a patient to see whether benefit will result from removal of one focus before going on to the removal of others. Fourthly, if persistent or repeated focal infections have resulted in prolonged or recurrent bombardments of the same tissues, organic changes will have been set up in these tissues which removal of the causative agent could not eradicate, and while such removal will prevent further spread of the active trouble, the symptoms due to the permanent tissue changes will persist.

IF careful study is made of the papers, and particularly the illustrative case reports of the papers which have criticized the theory of focal infection, it will be found that the factors just discussed have been disregarded. Some speak of the poor results from removal of teeth and tonsils in separate paragraphs, some from removal of only teeth and tonsils, with no mention of other foci in sinuses, pelvis or rectum. Most of these writers make no mention of searching for persistent or new foci when recurrences are reported, and many do not allow for persistent symptoms due not to activity but to the organic changes resulting from activity at the secondary sites they have attempted to treat. In any case in which the symptoms and findings indicate that removal of focal infections might result in benefit or cure, it is absolutely essential that *all* possible infective foci should be removed, and in such patients, when good results have been obtained, subsequent recurrences, in my experience, can invariably be accounted for by the neglect of some previously unrecognized focus or the occurrence of new areas of focal infection. It is important to realize that no dentist, otolaryngologist, gynecologist, urologist or proctologist can promise a patient relief from arthritis, peptic ulcer

or any other disease, but that one clinician must take the responsibility of guiding the patient in regard to the order in which the foci must be eradicated. Each specialist can only act as a cog in the wheel and must sense his responsibility for complete eradication of all even suspicious lesions within the scope of his specialty.

TO the dentist belongs the first responsibility, and he must realize what is expected of him. When Rosenow first reported his work, he felt that pyorrhea constituted the most important focal lesion in the mouth. Today we realize that peri-apical infections are the more important lesions to be eradicated. Although for over twenty years it has been realized that dead or so-called "non-vital" teeth are the most dangerous infective foci, the Roentgen ray has hindered rather than helped in the consideration of this problem. When we realize that even extensive areas of osteomyelitis in long bones cannot be seen by the radiologist, we must realize that osteomyelitis of the jaw bone around a dead tooth may be present also without radiographic evidence of its presence, and the dentist who waits for evidences of peri-apical absorption about a dead tooth, the so-called "peri-apical abscess," is neglecting an important area of focal infection. As a matter of fact, by the time sufficient breaking down of bone has occurred to produce the familiar peri-apical rarefaction, nature has usually surrounded the area with a dense membrane for the purpose of preventing absorption from it, so that the removal of such a tooth with its "pus bag," while spectacular, is really not of as much importance to the patient's health as the removal of the "pulpless negative tooth," which shows no radiographic evidence of peri-apical disease, but which usually shows the presence of bacteria on careful culturing, and even if not showing bacteria, must be an area for the absorption of cytost. Retained tooth fragments or persistent infections in edentulous areas, shown by Roentgen ray, are also foci, and require removal, as do also unerupted and impacted teeth.

In the case of pyorrhea, the important factor is not the change in the soft tissues, but the alveolar resorption surrounding the tooth socket. Here there is also bone destruction, with absorption of infective material or of cytost. While scaling and various treatments aiming to promote drainage from this area may be of some use in preventing absorption, in my experience the only real cure for this condition is the removal of the teeth involved, the sooner the better.

MANY dentists and of course most patients consider the aforementioned procedures too radical. No patient likes to lose teeth, and reticence in this respect is furthered by the usual statement of the dentist that artificial teeth will never be as good as the patient's own teeth and that these should be saved whenever possible. It is implied that the patient's own masticatory apparatus will be able to do its work better than any artificial substitutes for it, and that his digestive functions will therefore be better preserved if teeth are not extracted. While it is true that artificial dentures will never work as well as normal teeth, a study of the factors considered mostly responsible for both caries and alveolar resorption discloses the general opinion that these conditions are due to insufficient or inefficient use of the teeth (either because of the refined state of our modern foods, so that they require but little mastication, or because of bad habit or painful mastication) or to various forms of malocclusion interfering with proper mastication. It is therefore not an exaggeration when we tell the patient that his new teeth may be expected to be not only as efficient, but perhaps even more efficient than his own ever were.

THERE is one thing about the reasoning of those who oppose the removal of infective foci which is very difficult to understand. How is it that any medical man can insist on its being unnecessary to do anything in regard to known infections about the teeth, in the tonsils or sinuses, in the pelvis or in the rectum just because a patient has one of the diseases which have been attributed to focal infection? It would seem much more reasonable to insist on the removal of any such infections

whether the patient had any secondary disease or not and whether it were considered a prophylactic measure or not, but just for the purpose of getting rid of the local infection per se. If a similar infection were present in a finger or toe or in some region where it was visible or where it interfered with function it would be promptly removed, if only for esthetic reasons. So why do writers discourage the whole idea of the removal of local infections when their proper removal is so safe and may be of much benefit to the patient?

Summary

1. The etiologic relationship between focal infections and many chronic and acute diseases has not been disproved.
2. The removal of focal infections is an important factor in the treatment of such diseases.
3. In a given case all foci of infection must be removed—no results can be expected from partial removals.
4. In the mouth, the important foci requiring removal are non-vital and pyorrheic teeth and any retained fragments or areas of persistent infection following extractions.
5. The dentist is only one of a group of specialists whose cooperative efforts will result in the removal of all infective foci in an effort to relieve or cure the patient.
6. No one who has not had experience with the thorough eradication of all even questionable foci is competent to discuss the theory of focal infection.

88 Sixth Avenue.

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HODGKIN'S DISEASE

Case Series Analysis

ABEL LEVITT, M.D., F.A.C.P.
and
SYDNEY J. WEISMAN, M.D.
Buffalo, N. Y.

THIS communication is an analysis of twenty-nine cases of Hodgkin's disease studied at the Edward J. Meyer Memorial Hospital during the past ten years.

In 1832, Hodgkin described a clinical syndrome occurring in seven cases which comprised widespread swelling of lymph nodes, enlargement of the spleen and liver, anemia, cachexia, and death. Virchow, in 1845, identified the leukemias and separated Hodgkin's group into leukemias and aleukemias. In 1865, Cohnheim separated from the aleukemic subgroup, pseudoleukemia, a condition which he considered as having the gross and microscopic pathology of lymphatic leukemia without the leukemic blood picture. Kundrat in 1893 described lymphosarcoma, which discovery separated still another entity from the previously composite groups of aleukemic lymphadenoses. Finally, Sternberg in 1898 and Reed in 1902 gave accurate descriptions of the pathologic complex now recognized under the name of Hodgkin's disease.[1]

The disease presents manifestations throughout the reticulo-endothelial system of either inflammatory or neoplastic tendencies. The fact that there is intermittent

From the Medical Service of the Edward J. Meyer Memorial Hospital and School of Medicine, University of Buffalo.

fever and progressive anemia is suggestive of the former, but the inoculation of laboratory animals with organisms obtained from the lesions has rarely resulted in the duplication of the disease. The condition, however, is progressive, associated with cachexia, universally fatal, and does not respond to therapy, suggesting its neoplastic tendency.

In our group of twenty-nine cases, nineteen were males and ten were females, indicating, as reported by others, a greater frequency in the male, in whom it has been found to be twice as common. We have never observed the disease among Negroes, but have had one Indian in our group.

The age incidence in our series (Table 1) shows that the disease occurs at any age. We have observed four cases under the age of ten years and about an equal number of cases before middle life as after.

HODGKIN'S disease is gradual in its onset with a painless enlargement of a group of superficial lymph nodes associated with a progressive loss in weight, fever, malaise, anorexia, and many other varied symptoms, as indicated in Table 2. These may continue with a duration of life up to ten or more years. The foremost physical signs (Table 2) are the adenopathy, the splenomegaly, and the hepatomegaly. In four of our cases there were skin manifestations in the form of papular dermatitis and a purpuric eruption; in one instance herpes zoster was present. Effusion into the serous spaces was observed in a number of cases, particularly into the pleural and peritoneal cavities; in one instance pericardial effusion was noted. The blood pressure in all of our patients was within normal range.

Table 1

Age Incidence

Age of Onset	Number of Cases	Per Cent of Cases
3-10 years	4	13.8
11-20 "	2	6.9
21-30 "	8	27.6
31-40 "	1	3.4
41-50 "	5	17.2
51-60 "	5	17.2
61-67 "	4	13.8

THE laboratory studies in our group of patients (Table 3) suggest that the hemoglobin and red blood cell counts in some instances were only slightly below normal, while in over fifty per cent of the cases there was considerable anemia of the hypochromic type. Eosinophilia was not a constant feature, but a moderate increase in eosinophils was present in some of the cases. The blood chemistry and basal met-

Table 2

Signs and Symtoms

Sign	Number of Cases
Fever	28
Adenopathy	28
Cervical	26
Inguinal	21
Axillary	20
Mediastinal	14
Retroperitoneal	4
Splenomegaly	18
Hepatomegaly	16
Ascites	5
Peripheral edema	5
Skin manifestations	4
Pleural effusion	4
Pericardial effusion	1
Parenchymal lung involvement	

Symptom	Number of Cases
Weight loss	25
Weakness	24
Anorexia	24
Cough	13
Dyspnea	12
Abdominal pain	10
Nausea and emesis	6
Pruritus	6
Epigastric distress	4
Amenorrhea	4
Orthopnea	4
Dysphagia	4
Chest pain	3
Neck pain	3
Diarrhea	3
Pain in arm	2
Pains in hands and feet	2
Incontinence	2
Vertigo	2
Epistaxis	2
Night sweats	2
Constipation	2
Precordial pain	1
Joint pains	1
Tinnitus	1
Dysuria	1

Table 3

Blood Studies

Hemoglobin		Red Blood Cells		White Blood Cells		Polymorphonuclears		Eosinophils	
Hemoglobin Per cent	Number of cases	Millions per cu.mm.	Number of cases	Number per cu.mm.	Number of cases	Percentage of Polymorphonuclears	Number of cases	Percentage of Eosinophils	Number of cases
31-40	4	1.5-2	2	2000-3000	2	21-30	1	1-3	15
41-50	4	2-3	7	3000-4000	0	31-40	0	3-5	4
51-60	2	3-4	10	4000-5000	1	41-50	1	5-plus	1
61-70	9	4-5	9	5000-6000	2	51-60	3		
71-80	5			6000-7000	4	61-70	7	No eosinophils were found in the remainder of cases	
81-plus	4			7000-8000	2	71-80	6		
				8000-9000	4	81-90	9		
				9000-plus	13	90-plus	2		

abolism studies were not of diagnostic importance.

IN the absence of any specific therapeutic agent, symptomatic therapy was used. Twenty-three of our cases received deep x-ray therapy over a period of days or months, eighteen of whom are now dead; and the average duration of life of these eighteen cases was 28.8 months. The average duration of life in the six cases who received no x-ray therapy was 7.6 months. Of the remaining five cases, two are still alive and three have not reported to the clinic. Of the twenty-three patients who received deep x-ray therapy, fifteen were treated in our hospital (Table 4); eight cases were treated elsewhere.

THE x-ray therapy as given in our hospital was determined by the clinical picture of the patient. The usual dosage was 300 roentgen units per treatment; however, acute cases often exhibited toxic reactions with such dosage, and the amount per dose was decreased. Chronic cases often tolerated doses higher than 300 roentgen units. In the cases of long standing treatment the various glandular enlargements were treated as they appeared.

Six of our cases came to autopsy (Table 5), all of whom showed retroperitoneal, mediastinal, and mesenteric glandular involvement. The spleen was involved in six of the cases, and the liver in four. Hydrothorax and ascites were present in three instances, whereas pericardial effu-

Table 4

X-Ray Therapy

	Number of Treatments	Roentgen Units per Treatment	Duration of Treatment	Duration of Life
Case 1	40	50-300	3¾ years	?
Case 2	36	300	5 months	6 months
*Case 3	26	200	4 months	6 years
Case 4	19	200-300	20 months	9 years
Case 5	18	300	6 weeks	3 months
Case 6	17	500	1½ months	?
Case 7	15	300-500	6 weeks	7 years+
Case 8	15	100-200	9 months	2 years
Case 9	12	500	25 days	3 months
*Case 10	10	500	1 month	?
Case 11	8	300-450	2 months	16 months
Case 12	8	100	12 days	2¼ years
Case 13	4	200-500	4 days	3½ years
*Case 14	2	300	2 days	3 years
Case 15	2	200	2 days	17 months

* Received previous x-ray therapy elsewhere, amount unknown.

sion was present in one case. The bone marrow was found to be involved in one case.

Table 5

Autopsy Findings

Organ	Number of Cases
Lymph nodes:	
Retroperitoneal	6
Mediastinal	6
Mesenteric	6
Cervical	3
Inguinal	3
Axillary	3
Spleen	6
Liver	4
Hydrothorax	3
Ascites	3
Hydropericardium	1
Bone marrow	1

HODGKIN'S disease is essentially a chronic type of inflammation of lymph nodes which is characterized by certain histological features that are common but vary in amount. There is an initial "toxic" degenerative change when one may see cellular débris and polynuclear phagocytic effort brought into play; this lesion does not go on to suppuration, but organization. The cellular proliferation around this area is chiefly reticulo-endothelial with the appearance of multinucleated endothelial cells in varying numbers, sometimes very scant, at other times so profuse as to suggest a mixed cell sarcoma. In the progressive enlargement of the lymph node the proliferative areas are found side by side with the degenerative and organizing areas. The eosinophil, too, is variable, sometimes numerous and at other times scant. The original architecture of the lymph node is gradually replaced by this composite picture. The capsule is thickened, and the packets of lymph nodes become fixed and matted.

Conclusions

WE have reviewed twenty-nine cases of Hodgkin's disease and have presented their clinical and pathological manifestations. The longest duration of life after the diagnosis was established was nine years. X-ray therapy seems to prolong life.

Reference

(1) Simonds, J. P.; *Arch. Path.*, 1:394, 1926.

333 LINWOOD AVENUE.

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THE *Adopted* CHILD

LEGRAND KERR, M.D., F.A.C.P.
Brooklyn, New York.

PROLONGED observation strengthens the conviction that adopted children garner parental devotion and love no less than blood offspring. Compelling love which first suggested adoption gathers momentum with the years of association. The few instances in which the relationship becomes strained can be traced to the folly of withholding the fact of adoption from the child. As early as its understanding is adequate, the maintenance of reciprocal love demands that the fact be communicated. The time is not determined by age, but by the child's capacity to understand. The child may be told that out of a world of parentless children, he was selected for one's own. Once the child fully understands the situation, it should never be a topic for conversation unless forced by further inquiry. Sooner or later, some one will apprise the child he is adopted. Coming

from a stranger or near relative, it is an emotional shock to be averted.

I CONSISTENTLY advise against the adoption of children of opposite sex into the same family. Although closely guarded, the question of parentage will be discussed. The knowledge that the children are in no way related, plus the opportunities offered by close association and the urge of approaching puberty, create a situation fraught with danger. The risk is great.

I have not been as insistent against adoption where there is already blood offspring, although it portends difficulties, chiefly psychological and emotional. Children commonly enlarge upon such a situation, compelling parents to make decisions potentially dangerous to one or both children.

So strong and so seeking is mother love that agencies having the highly commendable task of placing babies for adoption are actuated by kindness in safeguarding any possibility of the original mother ever knowing how, when or where the infant was placed. This service is rendered with an efficiency, graciousness and devotion meriting unstinted praise.

Given thorough and repeated examinations, it is reasonably certain children for adoption leave the institution in mental and physical health. Many insist upon a final check-up by a pediatrician, which is desirable. The most thorough examinations cannot guarantee the child's mental or social equipment. Physically one may be apparently perfect, yet lack balance through environment and training, so that life falls short of its possibilities. Without discussing the details which force the conclusion, I feel that environment is the greater factor in the development of successful lives. Important as it is, heredity is often an "excuse" rather than a "reason" for failure of adjustment.

TAKING cognizance of the facts of heredity, how closely may we estimate the characteristics that a particular infant will develop? That is, assuming that the harboring institution has real knowledge of the child's parenthood and adequate information regarding the family to which he belongs.

The child's characteristics are influenced by the genes the individual contains, and these largely determine what he will become. However, complete knowledge of the family and the parents would not constitute all of the child's heredity. With the formation of each child a new combination of genes is molded. Thus the child may be quite diverse from the parents, or like them in some characteristics and divergent in others. Therefore certainty is impossible; the best we may hope for are the probabilities.

Genetic characteristics more closely approximate those of the family than of the parents, therefore it is more important to thoroughly investigate the family. If the genetic constitution is poor the child will not respond readily to the influence of environment; in fact, he cannot easily do so. A superior individual may come from inferior parents and vice versa, a child of superior parentage may form new combinations of genes some of which may be poor. There is no certainty. Certainty, however, is added if the family exhibits any marked defects. These can be accepted as definitely transmissible.

The influences of environment are diverse. Individuals of different genetic characteristics react variably to any given environment. Many early show an inadaptability. The superior types commonly take advantage of their environment and are readily adaptable. Some few are so superior that they dominate the environment, molding it to their purpose. There are those possessing special aptitude who seem capable of disregarding environment and, although it may help them, it cannot easily impede them.

The problem of remedial measures for the results of gene defects is distinctly that of the family physician and the trained aid he elects to summon to his aid.

ILLEGITIMATE offspring are gathered to an erring mother's bosom and enshrined with her love, with no apparent dissimilarity to that bestowed upon the offspring of those in legitimate wedlock. This

is not always true as regards the father, who is all too prone to cruelly suggest doubt as to the paternity or divest himself of responsibility for support. The mental and social cruelties heaped upon these innocent little ones, often in the name of charity, or of expediency—both excuses for callousness—are a stench in the nostrils of all right-thinking persons. If to err is human, to forgive, divine, mother and babe should be covered with a beneficent mantle of pardon and charity which demands no obligation to make amends but obligates itself to protect both.

When persons wed, each with a child or children, there is created a situation fraught with danger unless both are sufficiently wise to face the possibilities. Many couples have admirably solved this problem. Danger does not usually arise while both live, each acting as counterbalance to the other, bestowing affections equally upon the children.

Tragedy may raise its ugly head after the death of either. Then reaction from the loss of a mate and added responsibilities put the survivor to test. Unequal or unsettled distribution of wealth favors strife. Discord is rampant. First, the andante of faultfinding, then the crescendo of aggressive opposition, finally the fortissimo of family unrest threatening health and putting the emotions to torment, make the happiness of childhood a mockery. More true is this when money is involved and not definitely assigned by the deceased. A house set against itself cannot stand; and here is a house divided. Inconsequentials are magnified; issues are set up and defended. "Trifles light as air are made as heavy as lead." Tragedy which should never stalk in childhood disorganizes a forming life, disfiguring it permanently by emotional scars. Love not returned in full measure brings uneasiness, even hate. Restlessness, instability, hypersensitiveness and excessive emotional excitation pass insensibly into the neuropathies of adult life. This should not and need not be.

Facing facts, garnered from a wide and varied experience, may help some to avert a calamity.

A widower with a daughter of seven married a widow whose daughter was three. The union was most congenial, the family very happy. This was often commented upon by friends and relatives. At the age of forty-three, the husband died, leaving a small fortune. The widow for many months grieved and clung closer to the two girls. In time, she showed preference for her own offspring. This grew into an over-fondness and indulgence for her, and resentment to every attention paid the stepchild. At the present time, the stepdaughter, too young to completely assert herself, is suffering the torments of an unwanted child and the constant abuse of her stepmother. In time, she will inherit money provided by her father's will, and that will probably date the break-up of this one-time united family. While both lived, husband and wife acted as balance wheels for one another. With the death of one came tragedy for his child. I could duplicate this experience many fold.

THERE comes a time, increasing gradually, when the child becomes conscious of its own personality and plans its expression. "My child must increase, I must decrease" is a painful process for which many fathers and mothers take no effective anesthetic. This is a difficult time for any parent; happy is the one who graciously accepts it as inevitable. It is a relinquishing of previous domination step by step with the child's advancement.

Recalling that one's own parents went through a similar period and looked with alarm and dismay upon what might befall, gives a keener sense of security as to what may happen to one's own child. "How sharper than a serpent's tooth it is to have a thankless child" is just as true today as when it was spoken by King Lear. The difficulty is that many parents place an erroneous interpretation upon what is thankless. Thoughtlessness is commonly mistaken for thanklessness; and who of us has not been thoughtless at times? No doubt, many parents are disappointed in their children; they have had for them ambitions far in excess of the children's mental or physical capacity. Because life disappoints one in a few particulars is no reason for making life a total disappointment; or disillusionment an art.

Remember that one of the Commandments is "Honor thy father and thy mother"; but there is no companion injunction in the Decalogue for parents to love their children.

The latter is unnecessary, for the average parent gives all of his or her love and devotion to the offspring.

462 CLINTON AVENUE.

DERMOID CYSTS OF THE FLOOR OF THE MOUTH

Report of a Case

HENRY BUEL SMITH, M.D., F.A.C.S.

and

EUGENE H. COON, M.D., F.A.C.S.

Hempstead, New York

GORDON B. NEW and John B. Erich in 1937 reported the incidence of dermoid cysts in the patients examined at the Mayo Clinic during the twenty-five years, 1910 to 1935, inclusive. They included an excellent review of the situation, embryology, and pathology.

They reported 1495 cysts, of which twenty-four were in the floor of the mouth or in the submental and submaxillary regions. The cysts are usually in the midline, are elongated rather than round, and vary greatly in size. They give few or no symptoms until they become large, when they may produce difficulty in articulation, mastication, and deglutition. Later, and rarely, dysphagia and dyspnea may occur, or they may become infected.

THEY must be distinguished from ranulas, cystic hygromas, chronic suppurative infections of the submaxillary salivary glands, cysts of the thyroglossal ducts, branchial cysts, lipomas and neurofibromas.

Treatment in all cases is complete excision.

Report of Case

Q. W., male, aged 20, was admitted to Nassau Hospital in the late Spring of 1939, with pneumonia. A tumor in the floor of the mouth was noted on routine examination.

The patient had noticed the growth for about one year, but it had given him no trouble. The patient was advised on discharge to return in a few months, and was readmitted June 15th, 1939, for removal of the tumor. He was discharged as cured, June 21st, 1939.

Examination showed a tumor about the size of a lime, with the characteristic doughy feeling, in the floor of the mouth. The cyst was aspirated and the typical cheese-like contents of a dermoid cyst were obtained. Iodized poppyseed oil, 40 per cent, was injected and roentgen examination made by Doctor N. H. Robin to determine the size and shape of the cyst. The cyst was removed through a submental incision. Recovery was uneventful.

On the following page the illustrations show the patient prior to the removal of the cyst and the cyst itself after injection as described. PROFESSIONAL BUILDING.

Read at the Staff Meeting of the Nassau Hospital, November 8, 1939.

New, G. B. & Erich, J. B. Dermoid Cysts of head and neck, *Surg., Gynec. & Obst.*, 65:48-55, July 1937.

PILONIDAL

Cysts and Sinuses

HENRY G. HADLEY, M.D.
Washington, D. C.

CYSTS and sinuses of the sacrococcygeal region, according to Gage[1], are of two distinct types; the true pilonidal sinus, originating from a maldevelopment of the caudal end of the medullary canal, and the sacral dimple or sinus due to a maldevelopment of the caudal ligament. Warren[2], in 1857, was the first to describe this condition accurately, and Hodges[3] gave the name pilonidal sinus from the roots, pilus (hair) and nidus (nest).

The medullary canal is formed from the ectoderm of the embryo by the fusion of the medullary folds over the medullary groove. The cells of the medullary canal give rise to the central nervous system and the canal persists as the central canal of the spinal cord. The cephalic end of this canal widens and forms the ventricular system of the brain, while the caudal end becomes obliterated, forming the filum terminale. The closure of the medullary canal begins in the cervical region and progresses upward and downward; the caudal portion being the last to close. The extreme caudal end forms a sac called "vestiges medullaire coccygiens" by Tourneaux and Hermann[4]. The closed medullary canal between this sac and the open portion of the canal is the filum terminale. In the development, these structures may become adherent to the skin, causing a sacral dimple, or the dimple may be the result of a maldevelopment of the caudal ligament[5].

THE neural tube is patulous to the tip of the primitive coccyx. The spinal cord occupies the entire canal until the third month of fetal life. As the spine lengthens more rapidly, the cord ends at the level of the 3rd lumbar vertebra at birth, while the dura extends to the 2nd sacral and the filum terminale is attached to the end of the coccyx. Occasionally a

Fig. 1—(Smith and Coon)
Dermoid cyst after injection—see preceding page

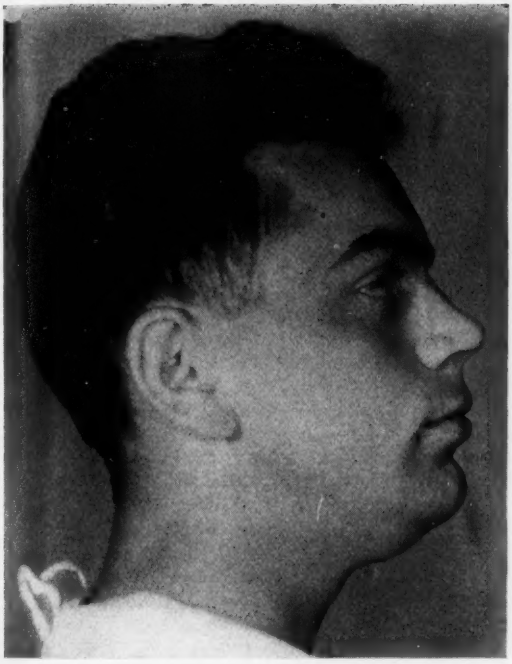

Fig. 2—(Smith and Coon)
Patient prior to removal of dermoid cyst—see preceding page

pilonidal sinus may be associated with spina bifida, in which case there may be a slight leakage of cerebrospinal fluid.

This condition, although present at birth, may give rise to no symptoms until infection occurs, with subsequent abscess formation, especially if multiple sinuses are present. This condition is particularly prone to recur after operation, the figures given by Weeder[6] being 25 to 35 per cent.

A considerable number of patients first request treatment when there is an acute abscess and when no radical operation can be performed. At this time, if a wide opening is made and the walls are cauterized with 95 per cent phenol, the walls of the sac may be sufficiently destroyed so that there may be no recurrence. This treatment with phenol should be continued at intervals until the wound is entirely closed. At the time of acute abscess, the walls of the sac are completely distended and it is possible, in a certain number of cases, to secure a cure without any further surgical procedures. This, of course, would not be at all likely to produce results if there were any multiple openings from previous suppurations.

Several cases have been treated in this manner, and where the treatment was started with a relatively large abscess cavity, success was attained. The period of healing is of much less duration than where a wide excision is made.

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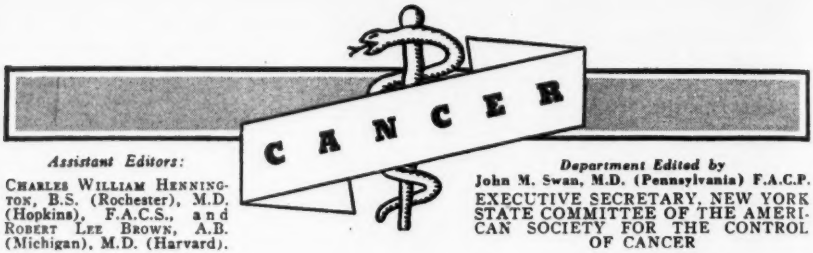
1252 Sixth St., S. W.

X-RAY IN SUBACROMIAL BURSITIS

Roentgen irradiation is frequently effective in the treatment of subacromial bursitis.

—*Mississippi Valley M. J., Jan. '39.*



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Department Edited by
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EXECUTIVE SECRETARY, NEW YORK STATE COMMITTEE OF THE AMERICAN SOCIETY FOR THE CONTROL OF CANCER

CARCINOMA OF THE CERVIX IN THE NASSAU COUNTY TUMOR CLINIC

ROBERT S. MILLEN, M. D.
Westbury, N. Y.

THIS study was undertaken in order to evaluate more thoroughly the results in therapy for the carcinoma of the cervix cases in the Nassau County Tumor Clinic.

Prior to 1936 the Clinic was located in the County Sanatorium in Farmingdale. Since 1936 it has been operated within the facilities of the Meadowbrook Hospital, near Hempstead.

Certain facts were so apparent that it was decided to publish this study in a journal reaching principally the general practitioner, who refers work to the Clinic.

The study, therefore, is not based principally upon the technical factors of x-ray and radium therapy, other than to give a general idea of the treatment and its variations, nor is a pathological discussion entered into, other than to show the percentage of epidermoid and adenocarcinoma of the cervix and the gross classification.

Of extreme interest was the length of vaginal bleeding that existed before the patients came to the Clinic. An average of seven and one half months between 1933 and 1936 fell to an average of three and one half months since 1936. This is a very gratifying response to the continuous efforts of the Nassau County Cancer Committee. Of considerable interest was the fact that the length of vaginal bleeding before admission in the five, six and seven year survivals that were effected was less than one month's duration. In the 1936 to 1940 group of the twenty cases that expired, fourteen had vaginal bleeding of three months' duration, two had vaginal bleeding for six months and one for eight months. On the remaining three, no record of vaginal bleeding was made, as two of the cases had previous treatment before they were seen in the Clinic and one had vaginal discharge for one year, but no vaginal bleeding. The well known surgeon, John Homans, once remarked, "Women, for one cause or another, and there are many, may become so accustomed to a leukorrhea—a discharge from the uterus or vagina—that they altogether ignore the suggestively odorous, pinkish discharge of early cervical cancer." This points out the decided advantage in applying for early medical care. Doctors should encourage yearly examinations, at least, and should instruct patients to report unusual bleeding or discharge immediately. A few months' delay may be fatal. As pointed out by Taylor and Millen in a recent article, the recurrence of bleeding after the menopause is six times as likely to be due to cancer as bleeding at the same age before the patient has actually passed through the menopause.

THE actual amount of disease present when the patients were admitted to the Clinic, while improving, is a long way from ideal. The cases were divided into four groups. Group I consisted of early disease confined to the cervix, Group II more advanced cervical lesions with a question of parametrial invasion. Group III consisted of definite parametrial invasion and Group IV a frozen pelvis. As will be shown there were eight cases (13 per cent) in Group IV, seen between 1933 and 1936, while there were 7 (12 per cent) in this Group between 1936 and 1940. However, in the 1933 to 1936 group, five of the eight cases were so far advanced that it was inadvisable to do any form of therapy. In the 1936 to 1940 group, two of the advanced cases were referred for terminal care from other institutions and the remaining five were treated palliatively with improvement. This is emphasized by the fact that at the end of the first three and one half years of the Clinic, thirty-nine, or sixty-seven per cent, of the patients had died. The cases entered in the Clinic the next three and one half years had at the end of that period a death rate of only seventeen, or thirty-five per cent.

THE frequency with which general surgeons, doing gynecology, often remove the supravaginal portion of the uterus, before obtaining a biopsy of a slightly eroded cervix, only to find in three or four months that an early carcinoma has been overlooked and has progressed to a moderately advanced degree, is still sufficiently common to necessitate stressing a biopsy of all eroded cervices, not only before considering any form of gynecological surgery, but at all pelvic examinations. The Schiller Test has often been written about and is very useful in cervices that appear grossly normal. It consists of the application of a solution consisting of tincture of iodine, 1 part, potassium iodide, 2 parts, and water 3000 parts on the cervix and noting the unstained areas. These areas show cells without glycogen and hence some form of pathology. A biopsy should be taken from these areas. In this way a lesion may be biopsied before it has actually eroded through the epithelium. The biopsy is easily obtained by means of a long scalpel and long forceps. It can be sent to the State Laboratory without charge to the patient. Containers are obtainable at the office of the Department of Health and should be mailed to the New York State Department of Health, 339 East 25th Street, New York.

The colposcope is expensive and requires considerable judgment. It is therefore recommended only to trained gynecologists.

A dilatation and curettage should precede every hysterectomy, as a carcinoma of the corpus, or cervical canal, may be overlooked until the uterus has been removed supravaginally and the diseased area cut through.

It is well, in addition, to have someone in the operating room open the uterus for the surgeon's inspection before closing the abdomen.

THE following cases illustrate the errors resulting from not adhering to these well accepted rules.

In November, 1936, a patient had a supravaginal hysterectomy and bilateral salpingo-oophorectomy, at which time a postoperative diagnosis of adenomyomatous and myomatous uterus with glandular polyp, serous cystoma of ovary, left, and hydrosalpinx was made. No cervical biopsy was taken, nor was the pathology described. In March, 1937 (four months later), the patient was seen in our Clinic. The cervix was very hard in consistency, containing a fungating mass on the anterior lip on the left lateral side of the cervix which infiltrated into the broad ligament, the anterior and left lateral vaginal walls. The fundus was not palpated. A speculum examination revealed this ulcerating mass occupied most of the cervix, especially on the left side, and infiltrated into the surrounding structures.

Another patient with a complaint of vaginal bleeding and spotting for five months was operated on in April, 1937. A hysterectomy was performed without doing a dilatation and curettage, or taking a biopsy of the cervix. She continued to spot post-operatively and three months later a biopsy was taken from the cervix which revealed epidermoid carcinoma of the cervix, Grade II.

In August, 1937, a patient had a right salpingo-oophorectomy, appendectomy and ventral uterine suspension. In October the patient was admitted to the Clinic with a moderately advanced carcinoma of the cervix, biopsy of which was reported as Grade III.

Another cancer area even easier to examine is the breast. The following case is described to point out the value of always examining the breasts of a gynecological patient. It is true that a patient can often feel lumps before a doctor and it is wise to advise women over thirty-five to feel their breasts carefully while bathing, once every six weeks. At definite six week intervals they will not develop a cancer phobia. Possibly they would if told to do so oftener, or without a definite date. A patient was being followed for a carcinoma of the cervical stump. She had been coming in to Clinic for follow-up for two years and when seen on August 16, 1938, the patient's result was satisfactory. Seven months later the visiting nurse, sent to find out why the patient had neglected to return to Clinic three months before and had failed to reply to cards sent out, learned from the patient of a breast mass of six months' duration. It is our procedure at each visit to examine the breasts of all gynecological cases. Hence this patient's breast cancer would have been noted earlier, had she kept her appointment.

THE usual treatment of carcinoma of the cervix, used in our Clinic, consists of x-ray and radium therapy. Following a course of deep x-ray therapy the patients are admitted to the Hospital for a radium applicator in the form of a bomb, placed against the cervix for a dose of 2500 m. hrs., and a cervical tandem, extending the length of the uterine canal, but with almost twice the amount below the internal os as above it. This is left in for approximately 3500 m. hrs. Occasionally needles are inserted into the broad ligament, or into the vaginal metastasis, etc. Arnson described the physics for these figures in his article entitled "The Distribution Of Radiation Within The Average Female Pelvis For Different Methods Of Applying Radium To The Cervix," presented before the Radiological Society of North America at the twenty-first annual meeting in Detroit in December, 1935.

Some doctors, referring patients to the Clinic, still feel that surgery has the advantage over radiation, in spite of the good results of the well established radiation program described above. A Wertheim operation does not offer better results, considering five year survivals, and even in the hands of highly trained gynecologists the operative mortality rate is high and five year survivals no better than those effected with radiation. This would be especially true in clinics where only an occasional such operation would be done. The following case illustrates this:

In January, 1934, a patient had a moderate amount of vaginal hemorrhage. She went to bed for a few days and the bleeding stopped. In March of the same year she had a second hemorrhage and consulted her physician. He found a lesion of the cervix and performed a panhysterectomy. This early type of lesion had markedly progressed by September, in spite of the operation. A radiation program was then carried out with little success. The patient died in January, 1935.

CERTAIN pathological features cause variation in treatment, as in cases where carcinoma occurs in a cervical stump. Here there is a possibility of a loop of gut being adherent to the previous site of the corpus, which would receive direct radiation. Numerous such cases have become obstructed and are frequently reported. Another case was treated in a different manner due to a complete third degree laceration. The cervix was hard and nodular, and protruding from the cervical canal was a friable granular piece of tissue from which a biopsy was taken. The cervix was fixed in retroversion. There was some infiltration of the left parametrium. Epidermoid carcinoma of the cervix, Grade II, was the biopsy report. The patient received x-ray therapy to each of six pelvic ports and later a vaginal bomb was applied against the cervix for 1500 m.

hrs. This small dosage (no tandem was used) controlled the condition nicely and at the end of five years there was no evidence of disease.

Some practitioners, unfortunately, assume a hopeless attitude in all but the early cases. The following report shows that even advanced cases can be kept alive and comfortable a considerable length of time with judicious treatment. It likewise illustrates how, when one is familiar with radiation effect on different types of tumors, he may use reduced dosage to control the disease and save much radiation discomfort.

When first seen a large cauliflower mass radiated in all directions from the cervix, particularly towards the posterior vaginal wall and rectum. Apparently the uterus was enlarged, although it was not completely fixed. An examination with one finger in the vagina and one finger in the rectum showed the anterior wall of the rectum was apparently fixed to the tumor mass in the vagina. The pathological report was carcinoma of the cervix, Grade II. After a small dose of x-ray therapy, an intra-uterine tandem was given. Nine months later x-rays of the lumbar spine, pelvis and hips were taken, as the patient complained of pain in her hip. The x-rays were negative for metastatic disease and the patient was placed on salicylates. Subsequent interval notes reported a fair condition. When seen two and one half years after her first visit to the Clinic a pelvic examination revealed a shallow vaginal vault, moderate fibrosis and fixation in the broad ligaments. A rectal examination revealed no extension since her last visit, three months previously.

RADIATION therapy is not completely without hazards. Occasionally, intestinal obstruction may result from over-radiation of an adherent loop of gut, or a pyometrium may result because of stenosis of the cervix, or a parametritis, often very difficult to distinguish from a carcinomatous infiltration of the broad ligaments. These areas may break down, forming localized or multiple pelvic abscesses, even resulting in rectovaginal or recto-uterine fistulae. Occasionally, vesico-vaginal and uterine fistulae, or stenosis of the ureters as they pass through the broad ligaments from infiltration or scar tissue, possibly induced by over-radiation, are encountered. When these complications arise, they are treated by appropriate surgical and urological measures, such as incision and drainage of the abscess, either through the vagina or the rectum, dilatation of the cervix with uterine drainage and irrigation, and in the cases of bad fistulae appropriate surgical repair is done, after short tracking the fecal flow by colostomies, if necessary. Urinary fistula and stenosis of the ureters are handled as in noncancerous cases. These complications are not common, but, when they do develop, require expert handling. Another general complication of radiation therapy is its effect on the general well being of the patient during active treatment. Gastro-intestinal disorders are frequent and secondary anemia often results. These must be combatted with iron, vitamin B complex, and frequent transfusions as indicated. However, these complications are no worse than those that the disease itself would cause in an equal length of time and, as the following summary shows, can be handled with judicious care for the ultimate well being of the patient.

A WHITE female, aged 27, was admitted with an advanced lesion. After treatment she developed pyometra, which was cleared up by inserting a hollow silver stem pessary, so that daily intra-uterine douches could be given through it, and also allow for continuous drainage. A right hydronephrosis developed from external constriction on the right ureter. This was cleared up by ureteral dilatations. Intestinal obstruction, due to a pelvic inflammatory mass, was treated by a double-barreled colostomy. Anemia was treated by several transfusions. The patient is now voiding without difficulty. Most of the stools pass through the rectum, only occasionally through the colostomy (this will soon be closed surgically). She is free of pelvic pain and discharge.

In conclusion may I again point out that

Carcinoma of the Cervix in the Nassau County Tumor Clinic

	1933-1936 Figures as of March 1940	1933-1936 Figures as of 1937 for True Comparison with 1936-1940 Group	1936-1940
Total Admissions	58		49
% Cases that Died	45 (78%)	39 (67%)	17 (35%)
Decades Death Occurred			
Late 20's—Early 30's	3	3	2
Late 30's—Early 40's	13	10	3
Late 40's—Early 50's	16	14	8
Late 50's—Early 60's	11	10	2
Late 60's—Early 70's	2	2	1
Early 80's			1
% Cases Known to Be Alive	9 (16%)	15 (26%)	31 (63%)
% Cases Outcome Unknown	4 (6%)		1 (2%)
Grouping of Cases			
Group I—Epidermoid	14		7
Adenocarcinoma	1		0
Group II—Epidermoid	25		24
Adenocarcinoma	1		0
Group III—Epidermoid	9		9
Adenocarcinoma	0		0
Group IV—Epidermoid	7		7
Adenocarcinoma	1		0
Average Length of Vaginal Bleeding Prior to First Clinic Visit	7½ mos.		3 mos.

progress is being made through the efforts of the Nassau County Cancer Committee and cases are being referred for proper treatment earlier. The general practitioners and general surgeons are again urged to become more cancer minded. Patients should be encouraged to present themselves for examination at least at yearly intervals and report immediately any unusual bleeding or discharge. Endocrine therapy should *not* be used to treat bleeding unless one is sure of the diagnosis, which often is only certain after Aschheim-Zondek tests, biopsies of suspicious areas of the cervix and dilatation of the cervix with complete curettage of the uterine cavity. Especially to be deplored is the failure to examine and biopsy cervices, if diseased in any way, and failure to do a dilatation and curettage before a supravaginal hysterectomy.

Every month a patient bleeds because of cancer before treatment is started markedly reduces her chances of survival.

CHRONIC COUGH IN CHILDREN

Chronic or persistent cough in children, in which no etiologic factor can be found (usually negative roentgen findings), frequently responds to a series of x-ray treatments directed to the hilus regions.

—Mississippi Valley M. J., Jan. '39.

PROCEEDINGS OF THE RESEARCH SOCIETY OF THE

Long Island College of Medicine

Hoagland Laboratory, February 14, 1940

THE ENCAPSULATION OF STREPTOCOCCI AS OBSERVED IN LIVING PREPARATIONS

Abstract

CALVIN B. COULTER, M.D. and FLORENCE M. STONE, Ph.D.

Department of Pathology, Long Island College of Medicine

BACTERIAL capsules are familiar to almost everyone who has occasion to examine bacteria microscopically so that it might be supposed that these structures were well understood. This is not, however, the case, due largely to the fact that capsules are almost invariably demonstrated by the use of staining procedures which cause shrinkage and distortion and stain the substance of the capsule poorly if at all. By means of a contrast stain, in fresh preparations we have been able to observe capsules in living streptococci and to follow the course of their development. Streptococci in the mucoid phase, after the first hour or two of incubation develop mucinous envelopes, which enclose diplococci and short chains as individual units. Within three or four hours at 37 C., the capsules of adjacent chains fuse, and groups of cocci appear surrounded by a common envelope. These aggregates constitute zoogloeal masses such as are formed by many saprophytic bacteria, and were first seen very early in the history of bacteriology. The capsular substance varies in its density and viscidity, being most firm in cultures freshly isolated from infectious processes. It becomes gradually fluidified and flows away from the cocci, appearing when abundant in cell-free masses and droplets, leaving the cocci denuded. A similar progress from formation to disintegration of capsules is observed in experimentally infected animals.

Discussion

DOCTOR J. T. Culbertson: I am impressed by the semi-fluid consistency of the capsule, as evident from the photomicrographs of living streptococci, and the relatively large volume of the capsular material. The demonstration of capsules by the conventional staining methods is very uncertain, so that out of a whole class, only one or two successful preparations may be obtained.

Doctor Rakieten: It seems possible that the mucinous capsular substance which surrounds the cocci represents Bail's aggressin, which was once thought to be an important factor in bacterial invasiveness.

Doctor Tiffany: Were there differences among experimental animals which could be correlated with the gradual loss of capsules that was noted in certain cases?

Doctor Coulter: I agree with Doctor Rakieten that the mucinous capsular substance satisfied the definition of aggressin as given originally by Bail. He stated that decapsulation might be observed in guinea-pigs only in those over 300 grams in weight, when recovery might take place after inoculation, while smaller animals with the inocula used, always went on to a fatal termination.

✚

MEDICAL ASPECTS OF *Scotometry*

JOHN M. EVANS, M.D.

Department of Ophthalmology, Long Island College of Medicine

THE normal blindspot occurring in the field of vision, so familiar to the modern schoolboy, was discovered by the French priest Mariotte in 1668.

A few years before our Civil War, examination of this blindspot was used as an aid in the study of clinical conditions. Since the area represents a projection of the optic nervehead, variations in size and shape were soon identified as representing pathological changes in that structure and in its cerebral extensions (the optic pathway). Studies appeared during the next two decades which suggested that inadequate attention was being given to the part which the retinal vessels play in the production of the blindspot and extended shadows. In 1925, deliberate attempts to study those vessel-shadows by the use of refined technique made possible the mapping of an elaborate arborizing shadow, which corresponded in shape and relations to the retinal vessel tree so obvious by ophthalmoscopic examination.

A carefully planned study of phenomena associated with this vessel-shadow or angioscotoma soon developed into the presentation of anatomical evidence, a great mass of rather startling physiological changes and practical technique which permitted clinical application of the data disclosed.

When sufficient material had been collected, an hypothesis was presented which made possible the interpretation of a great mass of clinical material.

ANGIOSCOTOMETRY is useful in the study of many systemic conditions as well as in those purely of interest to the ophthalmologist. A pronounced variation in the size and shape of the angioscotoma is demonstrable with the normal variations of the systemic circulation, such as occur with menstruation, change of posture and after respiratory effort. Systemic oxygen deprivation has been associated with scotoma changes, indicating a possible cause and effect relation. The following conditions have been studied or are in progress of investigation at the present time:

1. Effect of stimulation with light.
2. Effect of pressure on the eyeball.
3. Effect of constriction of neck.
4. Effect of influence of fright.
5. Effect of influence of menstrual cycle.

6. Effect of changes in posture.
7. Effect of influence of medication.
8. Effect of modification by various diseases.

Experiments have been undertaken with the use of Prussian blue to demonstrate the existence of perivascular spaces and their relation to variations in the angioscotoma.

Discussion

DOCTOR George H. Paff: Expectation is simpler than demonstration but one might well expect to find perivascular spaces surrounding the vessels of the retina when one considers that developmentally the retina is a direct elaboration of a portion of the brain. In the case of the brain and pia mater we know that by stripping one can pull cerebral vessels directly out of their perivascular spaces.

The method employed of introducing the demonstrating material into the vitreous would lead one to expect "streamers" or pathways leading from vitreous to perivascular spaces. Did such appear?

Doctor S. M. R. Reynolds: There appears to be an effect of psychic influence upon the size of the angioscotoma. Have any substances been used which show corresponding effects?

Doctor Evans: In answer to Doctor Paff's question such streamers do appear. We are undertaking investigations of the nature suggested by Doctor Reynolds' inquiry and will report on these later.

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Bacteriophages ACTING ON MUCOID STRAINS OF BACTERIA

MORRIS L. RAKIETEN

Department of Bacteriology,
Long Island College of Medicine

PHAGES possessing the ability to lyse mucoid strains of bacteria belonging to the Klebsiella, Aerobacter and Escherischia groups produce plaques that are strikingly different from those produced by most other phages. When plated in appropriate dilutions on smooth, mucoid cultures the plaques which appear are surrounded by zones, and while the plaque does not increase in size, with continued incubation the zone continues to spread so long as any mucoid growth remains on the plate. Within the zone the living culture is vitreous in appearance, in contrast to the mucinous character of the growth not as yet acted upon, and the organisms do not possess capsules. This change in the culture is brought about by the remarkably high degree of diffusibility of these phages, for they continue to spread and bring about a decapsulation of mucoid growth.

Secondary cultures of mucoid strains are no longer pathogenic for white mice, nor are they able to produce mucoid colonies. Bacteriophages which can act on the strains produce plaques, but these plaques are not accompanied by zones.

So long as cultures retain their capsules they are susceptible to those phages which

—Concluded on page 349

Gastroscopic Observations on Chronic Gastritis

J. B. CAREY *(American Journal of Digestive Diseases,* 7160, April 1940) states that as shown by gastroscopic examination, chronic gastritis is of three types: (1) Chronic superficial gastritis characterized by edema, hyperemia, hemorrhage, exudate and erosions; this type of gastritis may either heal or progress to atrophy. (2) Chronic atrophic gastritis, characterized by thinning of the mucosa so that it appears gray, green or "dirty white" diffusely or in patches; the mucosal folds are thin and easily effaced with air pressure; the blood vessels may be seen beneath the mucosa, and in some cases hemorrhagic spots or streaks but, in the author's experience, neither erosions nor exudate. (3) Chronic hypertrophic gastritis, characterized by a thick "dull" mucosa often of a "warty," pebbled or mammillated appearance; the mucosal folds are thick and not effaced by dilating the stomach with air; there is often erosion, ulceration and hemorrhagic areas, but without exudate. In cases of single peptic ulcer, the gastric mucosa may be normal or show some congestion, edema or hemorrhagic areas around the ulcer. In chronic duodenal or gastric ulcer, superficial gastritis may be present; occasionally the author has observed changes of the hypertrophic type with duodenal ulcer, but not with gastric ulcer; atrophic changes have never been observed with either type of ulcer. Postoperative changes in the stomach are of varied type, most frequently of the superfiicial gastritis type with tendency to atrophy, but some areas of hypertrophy may be seen. In a series of 700 gastroscopies, the author's findings have been negative in 22.5 per cent. Primary gastritis was found in 44 per cent—hypertrophic type in 22.5 per cent, atrophic in 12.5 per cent, superficial in 9 per cent; carcinoma was demonstrated in 10 per cent; gastric ulcer in 7 per cent with or without local gastritis. Repeated examinations have shown that while a peptic ulcer may heal completely under medical treatment, the changes in chronic gastritis other than the superficial type are usually irreversible. The symptoms characteristic of atrophic gastritis are persistent epigastric discomfort of a pressure type (sometimes relieved by eating), anorexia and nausea. These cases are best treated by bland diet, drinking of hot water with or without salt, occasionally hydrochloric acid, adequate vitamins, especially B and C. The typical symptom in hypertrophic gastritis is epigastric pain occurring immediately after eating or after an interval; there is nausea and frequent vomiting; there may be recurrent hemorrhages. These cases are best treated with an ulcer diet and regimen.

COMMENT

Gastroscopy should be employed more frequently in practice. Unfortunately this procedure is only available to those who are near medical centers. Moersch and Comfort [Am. J. Surg. New series 46:246 (November) 1939] recommended gastroscopy as an aid in the diagnosis of carcinoma of the pancreas. *M.W.T.*

Use of Sodium Sulfapyridine by Hypodermoclysis

G. V. TAPLIN, R. F. JACOX and J. W. HOWLAND *(Journal of the American Medical Association,* 114:1733, May 4, 1940) report the use of sodium sulfapyridine, which is soluble, for subcutaneous administration (by hypodermoclysis) in the treatment of pneumonia and other conditions in which sulfapyridine is indicated. The initial dosage used was 3 to 7 gm. dissolved in 1 liter of physiological saline, depending on the weight, estimated kidney function and state of hydration of the patient. Similar amounts were given at intervals of twenty-four to thirty-six hours, according to the patient's response to the therapy, the blood level of the drug and the reactions noted. Such solutions are highly alkaline, but no local reaction was observed in any case. This method of administration is especially indicated when the drug is not well tolerated by mouth or is not well absorbed, as with hypodermoclysis there is "no question about absorption." The concentration of the drug in the blood can be brought to 4 to 10 mg. per 100 c.c. within a few hours with this method of administration and this level is maintained for eighteen to thirty-six hours. Its use, therefore, is indicated in cases in which a high sustained concentration in the blood is "imperative." The patient's sodium chloride requirement is supplied at the same time, without the necessity of giving salt by mouth. Also the fluid intake is supplemented, a factor of importance especially in cases in which sufficient fluids cannot be taken by mouth. Not a sufficient number of cases have been treated with sodium sulfapyridine alone to evaluate its efficiency as compared with sulfapyridine by mouth or serum, but the general impression has been that sodium sulfapyridine by hypodermoclysis was equally as effective as sulfapyridine by mouth, and that a lower total dosage was necessary to effect a cure. The toxic reactions to sodium sulfapyridine by hypodermoclysis were essentially the same in type and in frequency as those with sulfapyridine by mouth; the fact that nausea and vomiting occurred in more than half the cases with subcutaneous administration indicates that such reactions are of central rather than of focal origin.

COMMENT

E. V. Marshall and P. H. Long (J.A.M.A. 112:1671 April 29, 1939) concluded that the intravenous route was indicated in cases where the oral administration of the drug was impossible and where prompt action was imperative. Also this method may be required when the patient does not respond to oral administration. The sclerosing effect on the vessels of injections of sodium sulfapyridine is a disadvantage.

M.W.T.

Parenteral Administration of Sulfapyridine

J. W. HAVILAND and F. G. BLAKE *(American Journal of Medical Sciences,* 199:385, March 1940) note that in the use of sulfapyridine in the treatment of pneumonia, the oral administration of the

drug is sometimes difficult or impossible, either because it causes severe nausea and vomiting or because the patient is comatose, or because of some other special condition. Solubility studies on sulfapyridine showed that a 0.15 per cent solution in normal saline solution or a 0.2 per cent solution in 5 per cent glucose solution or in equal parts of normal saline and 5 per cent glucose solution is suitable for parenteral administration. In 43 cases of pneumonia sulfapyridine was given parenterally in such solutions. In 2 cases it was given by intravenous injection alone, in 4 intravenously and subcutaneously (by hypodermoclysis), in 10 cases subcutaneously, and in 27 cases subcutaneously supplementary to oral therapy. The "fundamental plan" of treatment was to give 6 gm. in the first twenty-four hours and then maintain the blood concentration by means of 4 gm. daily thereafter. The total daily dosage was given in divided doses, every eight hours for three injections, every twelve hours for two injections. Intravenous injection gave the highest blood levels immediately after injection, hypodermoclysis two to four hours after treatment has been completed. Only one local reaction was observed—thrombophlebitis in the superficial thigh veins—and this is considered to have been due to an error in technique. No immediate general reactions such as chills or vascular collapse were observed. While the volume of fluid employed is relatively large, such volumes can be given safely in "almost any case"; moreover, the solutions employed provide adequate fluids, salt and glucose when they are often needed because of persistent vomiting or inadequate intake in delirious or comatose patients. The solutions employed, the authors note, may also be given into the subarachnoid space in cases of meningitis, or into the pleural cavity in cases of empyema. They believe that such solutions are less likely to cause slough or reactions than sodium sulfapyridine, which is extremely alkaline.

Comment

It is interesting to note that these observers found good effect from sulfapyridine in a 5 per cent glucose solution or in equal parts of normal saline and 5 per cent glucose. Finland et al. used sulfapyridine in 50 per cent glucose diluted with physiologic salt solution prior to injection but none of the cases of pneumonia showed marked improvement after its use. ***M.W.T.***

The Diagnosis of Cardiovascular Syphilis

E. P. MAYNARD, JR. *(Brooklyn Hospital Journal,* 2:69, Apr. 1940) notes that the diagnosis of uncomplicated cardiovascular syphilis, i. e., syphilitic aortitis, involves "serious difficulties." At the Cardiac Clinic of the Brooklyn Hospital, the following criteria have been adopted for the diagnosis of syphilitic aortitis: The patient must have had syphilis "beyond a reasonable doubt." There must be either a history of infection and one strongly positive Wassermann reaction, or two strongly positive Wassermann reactions, or definite evidence of syphilis elsewhere. There must be no evidence of any other disease that may dilate the aorta—arteriosclerosis, rheumatic fever or rheumatic heart disease, hypertension, or hyperthyroidism. The patient must be forty years of age or younger, as in older patients arteriosclerosis cannot be excluded. There must be roentgenographic or fluoroscopic evidence of a dilated aorta. There may be a hollow, accentuated aortic second sound (a valuable physical sign); and a systolic murmur at the aortic area. Uncomplicated syphilitic aortitis does not cause symptoms of circulatory embarrassment, progressive cardiac failure or paroxysmal dyspnea; such symptoms occur only when the disease progresses and such lesions as aortic insufficiency or aneurysm develop. In an analysis of 20 cases of syphilis that came to autopsy and that had been studied during life at the Cardiac Clinic, a correct diagnosis of the cardiovascular lesions had been made in 17 cases. There were 3 cases in which the autopsy showed a normal aorta; an incorrect diagnosis of syphilitic aortitis had been made in one of the cases, because the roentgenogram showed an enlargement of the vascular pedicle, considered to indicate a dilatation of the aorta. Autopsy showed a dilated superior vena cava. There were 2

cases of uncomplicated aortitis, one of which was correctly diagnosed during life. In the other case the roentgenologist was of the opinion that there was no dilatation of the aorta; the error in diagnosis may be ascribed to incomplete radiographic study, but as the aortitis was of slight degree, it is possible that no diagnostic method would have revealed it. There were 4 cases diagnosed as aortitis or arteriosclerosis or both, in which autopsy showed the diagnosis to be correct. There were 11 cases with aortic insufficiency or aneurysm, all but one of which were correctly diagnosed during life. In this case autopsy showed aortic stenosis of rheumatic origin in addition to syphilitic aortitis and aortic insufficiency; a diagnosis of rheumatic heart disease had been made. From these findings the author concludes that in the diagnosis of uncomplicated syphilitic aortitis, careful clinical, fluoroscopic and orthodiagraphic studies must be made in addition to teleoroentgenography and measurement of the vascular pedicle, to establish the presence or absence of dilatation of the aorta. In patients over forty years of age it is not possible to be certain whether dilatation of the aorta is due to syphilitic aortitis or arteriosclerosis and the diagnosis must be made to include both of these possibilities.

COMMENT

An interesting article. It is worth while to quote the criteria for diagnosis of syphilitic heart disease as given by the Criteria Committee of the New York Heart Association.

"a. History of syphilitic infection and evidence of one of the characteristic structural lesions of the aorta.

"b. A characteristic structural lesion of the aorta without a history of syphilis but with a positive Wassermann reaction.

"c. A characteristic structural lesion of the aorta together with evidences of syphilitic disease elsewhere, such as cerebrospinal syphilis, even in the absence of a positive Wassermann reaction or a history of syphilitic infection." ***M.W.T.***

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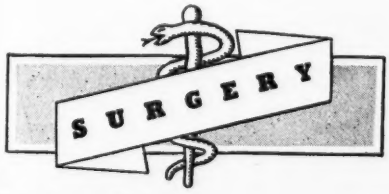

Pulmonary Embolism

W. N. GRAVES *(Surgery, Gynecology and Obstetrics,* 70:958, May 1940) presents a statistical review of pulmonary embolism occurring in 105,284 hospital admissions. There were 194 cases of pulmonary embolism, 104 of which occurred after operation, 90 in medical cases. In 68 of the surgical cases the embolism occurred after abdominal operations, 30 of which were in the upper abdomen. An average rise of temperature of 1.95 degree was noted in 61 per cent of the cases at or after onset of the embolus. Massive sudden pulmonary embolism is usually rapidly fatal; however, there are certain symptoms that suggest the occurence of "minor showers" or single emboli, such as recurring painful areas in the chest, unexplained low grade fever and pain at the operative site, and a feeling of apprehension. If such symptoms are noted, preparations may be made "to meet the major crisis." At the first sign of the development of a larger embolus, oxygen should be given and papaverine hydrochloride intravenously (1/2 gr.), followed by morphine and atropine, and the patient kept under constant observation by the nurse. One of the author's patients recently recovered from what appeared to be a large embolus under this treatment. Electrocardiographic tracings are of value in the diagnosis of pulmonary embolism, but the use of the x-ray is not indicated, as the findings are unsatisfactory, and it may be detrimental to the patient. Preventive treatment of pulmonary embolism "should be directed toward the prevention of stagnation to the return flow of blood." The measures employed include active promotion of circulation, massage, prevention of acidosis by low fat, low protein diet, and the use of heparin.

COMMENT

In the statistical review given by Dr. Graves, the condition of pulmonary embolism occurs often enough to worry the surgeon, and considering the number of complications occuring in the medical group, the internist, too, is not secure. The author emphasizes the importance of recognizing "minor showers" or single pulmonary emboli and treating them at the first sign of development. The prophylactic treatment is again emphasized. Venous stasis is one of the most important causes of venous thrombosis. In common with the experience of all surgeons, I agree that the measures employed postoperatively must invoke circulatory activity. T.M.B.

Use of Whole Blood as a Means of Preventing Peritonitis and Adhesions

E. G. JOSEPH *(Annals of Surgery,* 111:618, Apr. 1940) reports that in the Hadassah Hospital in Jerusalem (Palestine) many patients were treated for gunshot wounds of the abdomen. Many of these patients recovered, when it was thought that their condition was desperate, even though the bowels were torn open in several places, and fecal matter was found in the peritoneal cavity. In these cases the peritoneal cavity was filled with blood at the time of operation, whereas in the usual carefully conducted resections of the large bowel the field is dry. Yet in the emergency operations in a field "swimming in blood," peritonitis did not often occur, although it is a dreaded complication of "systematic" resections. These findings suggested the theory that free blood in the peritoneal cavity tended to increase the resistance of the peritoneum against infection. In experiments on dogs and rabbits, it was found that injection of a small quantity of fresh feces into the peritoneal cavity did not as a rule produce peritonitis. But if the introduction of the feces into the peritoneal cavity was combined with exposure and trauma to the wall of the bowel, such as incision and subsequent suture of the sigmoid colon, peritonitis resulted in 90 per cent of the experiments. If following these same procedures, fresh blood was introduced into the peritoneal cavity, peritonitis did not develop. Of 8 animals treated in this way, 6 survived; postmortem examination of the 2 animals that died showed that death was not due to peritonitis; there were no adhesions in the abdominal cavity. Several of the animals that survived were subsequently killed; the peritoneal cavity was free from all signs of adhesions in every instance. Recently this method of introducing blood into the peritoneal cavity has been used in human beings after an operation on the gastro-intestinal tract in which peritonitis is developing or is established. Three illustrative cases are reported, in 2 of which operation was done for perforation of duodenal ulcer, and in one for ileus with necrotic appendix. In these cases 200 c.c. of fresh blood (usually the patient's own blood) mixed with 30 c.c. of a 2 per cent sodium citrate solution was introduced into the peritoneal cavity; all these patients made an "uneventful recovery." In a fourth case of gunshot wound of the abdomen, fresh blood was present in the peritoneal cavity; no peritonitis developed, but a severe ileus which was successfully treated with the Miller-Abbott tube and spinal anesthesia. From these results the author concludes that the introduction of fresh blood into the abdominal cavity increases the resistance of the peritoneum to infection and prevents the formation of adhesions in a large percentage of cases.

COMMENT

This article is stimulating and interesting. All abdominal surgeons are constantly worrying about peritoneal contamination and infection. The author presents a simple method of combating intraperitoneal infection and avoiding postoperative adhesions. From my personal experience, I can recall a few cases where a good deal of bleeding did take place intraperitoneally and infection did set in, eventually causing the death of the patient. However, the author quotes some experimental evidence and clinical data which are encouraging and rather startling. The treatment suggested by Dr. Joseph is simple and should be given a clinical trial in a large group of cases. T.M.B.

Nerve Block Anesthesia For Foot Surgery

H. E. HIPPS *(American Journal of Surgery,* 48:410, May 1940) notes that it sometimes is necessary to operate on a foot,

when the patient's general condition is such that general or spinal anesthesia cannot be used, and local infiltration is not sufficient. In such cases the author has used a nerve block anesthesia, which he has found satisfactory for quieting the patient and giving good relaxation of the muscles of the leg and foot. For the administration of the anesthetic the patient is placed on the operating table on his stomach, and the knee flexed to locate the flexion crease behind the knee. The needle is inserted into the subcutaneous tissue at this crease just a little outside of (lateral to) the median line; 5 c.c. of 2 per cent novocain is injected at this site; this blocks the medial cutaneous branch of the tibial nerve. The needle is then inserted deeper without changing its location; when it pierces the deep or popliteal fascia, the tip will be immediately adjacent to the tibial nerve; 15 c.c. of the novocain solution is then injected. The novocain does not need to be injected directly into the nerve trunk, although this can be done. A needle is inserted into the lateral or posterolateral aspect of the fibula "just below the prominence of the head of the fibula" to infiltrate the peroneal nerve; 10 c.c. of the novocain solution is injected. The patient is then turned over and the foot prepared for operation; anesthesia is satisfactory within ten minutes. The author has never seen any unusual or serious reactions to this form of anesthesia, although a large amount of novocain is employed. The duration of the anesthesia is from thirty minutes to an hour; and "sensation and muscle return" are normal within two hours.

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COMMENT

The author reviews his method of obtaining anesthesia in the foot by nerve blocking at the knee level. I feel that the method is practical and safe but will not be very popular, for most surgeons have not the patience nor will they take the time to accomplish such anesthesia. However, Dr. Hipps notes that it sometimes is necessary to operate on a foot when the patient's general condition is such that general or spinal anesthesia can not be used and local infiltration is not sufficient. T.M.B.

Local Implantation of Sulfanilamide In Compound Fractures

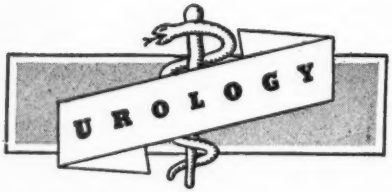
J. A. KEY and T. H. BURFORD (*Southern Medical Journal*, 33:449, May 1940) report the use of local implantation of sulfanilamide crystals in the treatment of compound fractures, according to the method described by Jensen, Johnsrud and Nelson in 1939. In experiments on animals, they found no evidence that sulfanilamide delayed bony union of fractures. The local implantation of sulfanilamide "does not permit the closing of grossly contaminated or infected wounds." The wound must be débrided, and all foreign material and devitalized tissue removed, as soon as possible after the injury, preferably within twelve hours. The fracture is then reduced, and the sulfanilamide crystals implanted in the wound; the skin and subcutaneous tissues are sutured with a single layer of silkworm gut sutures without drainage, to retain the serum in the wound, "which is saturated with sulfanilamide." The part is then immobilized. In large wounds with extensive loss of tissue, which it is impossible to close, the surface has been cleaned, "obviously devitalized" tissue removed, and the surface sprinkled with sulfanilamide crystals. The wound is then covered with a thick layer of vaseline gauze and the extremity immobilized in a plaster cast. With these methods, the authors are of the opinion that most compound fractures can be closed without danger of infection. This is not only important in civil life, where compound fractures are becoming more frequent with the increasing use of automobiles, but it is even more important in war surgery. While the use of sulfanilamide is not yet to be recommended for the prevention of infection in "clean" operative wounds, it may well be used in potentially infected operative wounds. The authors have used sulfanilamide in wounds of amputation stumps when the operation was done for gangrene and infection, and have sutured such wounds tightly with good results.

COMMENT

The authors describe their method of treatment of compound fractures which includes all the essentials for proper wound healing.

They emphasize early care of wound, preferably within 12 hours; proper debridement; reduction of fracture; converting an open wound whenever possible into a closed wound; and adequate immobilization. This treatment in itself usually gives satisfactory results. The authors go still further and report on the use of local implantation of sulfanilamide crystals in the treatment of compound fractures and also in potentially infected operative wounds. Their results are good. The treatment as outlined is very good in civil life and may be even more important in war surgery.

T.M.B.



Pneumopyelography

J. B. MORGAN *(Journal of Urology,* 43:669, May 1940) notes that the modern development of pneumopyelography as now used in a number of European clinics is due mostly to the experimental work of Bedrna and his associates at Brno (Czechoslovakia). In experiments on dogs they showed that the injection of 10 c.c. of air directly into the renal vein caused few or no symptoms; as the average capacity of the human renal pelvis is less than 10 c.c., the danger of fatal embolism "would seem to be unlikely." With anesthetized dogs, it was found that not until the air pressure in the pelvis exceeded 200 mm. Hg did air begin to penetrate into the renal veins in the form of small bubbles, and even this caused no fatality and no evident deleterious effect on the animal. In an extensive clinical experience with pneumopyelography Bedrna and his associates found the procedure to be perfectly safe, with a proper technique; and from other European clinics using this method no accident has been reported. The method is but little employed in American practice. However, the author has used air as a medium for pyelography since 1936, and in three years has made over 200 pneumopyelograms without any serious complication. The only complication noted in these series was "an occasional colic" when the air was introduced under pressure, and this colic was less severe and of shorter duration than that which often occurs with the use of contrast media. As with the usual method of pyelography, "gentleness is of prime importance." As a rule, the author employs a No. 5 F ureteral catheter, as this allows the escape of excess air down the ureter. Ordinary air at room temperature is injected through the catheter with a 20 c.c. syringe. The injection of more than 10 c.c. depends "upon the feel of the injection syringe." The injection is discontinued as soon as the patient feels any pressure in the renal area. The author has found pneumopyelography especially useful for the demonstration and localization of small calculi, which are not shown in the plain roentgenogram or by displacement of the contrast medium in the usual type of pyelography. It also makes possible an early diagnosis of papillomata in the renal pelvis and the ureter; stricture of the ureter may be shown to better advantage as air may pass through the stricture when the contrast medium will not. Incrustrations within a tumor or in the renal pelvis are also best demonstrated by pneumopyelography. The contraindications to the use of pneumopyelography are the same as those to pyelography with contrast media.

COMMENT

The control over patients so much in order in Europe and so little in order in this country explains why pneumopyelography is not the accepted practice in this country, as yet. From Morgan's own work it seems to fill in all the defects of contrast media films. If later experience, longer in his hands and wider in the hands of others, proves these facts, then it becomes a very valuable and promising diagnostic aid. Embolism may be rare but when it does occur it is no joker, but rather a jolter. One easily remembers the injection of air into the renal zones attempted everywhere twenty-five years ago or so. Fatalities and other accidents have passed it into the discard. To-day it is a curiosity.

V.C.P.

Hypertension Associated with Unilateral Nephropathy

R. M. NESBIT and R. K. RATLIFF (*Journal of Urology*, 43:427, May 1940) cite 9 cases of hypertension associated with chronic inflammatory nephropathy. Two of the patients died, one of them with symptoms of hypertensive cardiac disease. The autopsy findings in these cases strongly suggest that the chronic pyelonephritis was the cause of the hypertension, as no vascular disease was found elsewhere than in the diseased kidney. In 5 cases in which the diagnosis of unilateral inflammatory nephropathy was established by complete urological examination, nephrectomy was done. This was followed by definite and apparently permanent lowering of the blood pressure; the hypertension cannot be regarded as cured in these cases until the patients have been under observation for two to three years. In 2 cases nephrectomy was done, but without any permanent effect on blood pressure. Both of these patients had suffered from toxemia of pregnancy, following which the hypertension and hypertensive symptoms had developed; there was no definite evidence that the renal disease was bilateral in these cases, however. In all of these 9 cases the affected kidney showed renal vascular sclerosis, which would accord with Goldblatt's theory of the etiology of hypertension. On the other hand the authors have observed 3 other cases with similar unilateral renal lesions also showing the same vascular changes, but not accompanied by hypertension. These three cases, the authors note, "are not included to confuse the issue but to point out that such a typical renal pathological process does not necessarily indicate the presence of clinical hypertension." Two cases are reported with obstructive nephropathy (hydronephrosis), with associated hypertension. In one case in which both kidneys were affected, bilateral nephrostomy definitely lowered the blood pressure in spite of moderate renal insufficiency. In the other case with unilateral hydronephrosis, nephrectomy was followed by relief of the hypertension; in this case microscopic examination of the kidney showed no vascular changes. In another case, malignant hypertension developed ten years after trauma to the left kidney with destruction of the upper pole. Nephrectomy lowered the blood pressure temporarily in this case, but did not permanently relieve the hypertension. If the hypertension resulted from the ischemic changes in the kidney in this case, its prolonged duration probably has resulted in secondary vascular changes elsewhere in the body.

COMMENT

Hypertension is probably fundamentally a toxic condition in which the basic expression is cardiac, arterial or renal, variously combined and related. One of the most important observations in this study is that improvement after nephrectomy must be maintained for several years before it can be called permanent. The failure of benefit after operation in some of these cases is one of the most important admissions in this study. The reason is undoubtedly that the toxic state is extrarenal, for example, intestinal. I recall a case of apparent cure after having removed one broken-down kidney. The other broke down in about two years from the same cause, namely, intestinal disease. Kidney lesions and high blood pressure may be only signs of conditions elsewhere in the body. ***V.C.P.***

Urologic Complications Following Sulfapyridine Therapy

W. ANTOPOL (*Journal of Urology*, 43:589, Apr. 1940) reports that of 40 patients treated with sulfapyridine for pneumococcus pneumonia, 16 or 40 per cent showed a transient microscopic hematuria. Whereas in 100 cases of pneumococcus pneumonia observed in three years before the use of sulfapyridine, microscopic hematuria was found in only 11 cases, and in these cases the number of red blood cells per high power field was much less than in the sulfapyridine cases. X-rays of the kidney region in 2 cases showing microscopic hematuria were negative for calculi. But in experimental animals the urinary concretions developing under sulfapyridine administration are radiotransparent until the calculus has been present some time so that a secondary deposition of calcium salts has occurred. In one patient who came to autopsy no concretions were found in the kidney, although there was a hemorrhagic papillitis

and pyelitis, with tubular degeneration. In one case, the patient complained of colicky pain radiating from the lumbar region to the groin; at this time there was gross hematuria; the x-ray examination was negative for calculi. Fluids were forced and all symptoms cleared up after four days. In another case, a child, acute urinary retention developed two days after sulfapyridine therapy was begun and lasted two days. None of the patients who recovered from the pneumonia showed any residual urinary symptoms on discharge from the hospital. As experimental studies on urologic lesions following administration of sulfapyridine have shown that the uroliths may be "either redissolved or washed out," the fact that no evidence of calculus formation was found in these cases does not necessarily indicate that there was no such formation. However, in experimental animals pathological changes similar to those found at autopsy in man may occur without calculus formation or with only very small calculi; such lesions may be the cause of the hematuria, and obstruction due to blood clots may be the cause of renal colic such as occurred in one of the author's cases. The pathological changes in the kidney found after sulfapyridine administration are much more severe than those found in fatal cases of pneumonia not treated with the drug.

COMMENT

Noteworthy in this study are these facts. Pneumonia alone does cause renal lesions as indicated by transient trivial or severe hematuria and moderate autopsy findings. Yet the severity of these complications is never as great as those from sulfapyridine alone and their frequency is only about a fourth as great (11 to 40%). The range of disturbance from microscopic to gross bleeding and from colic to retention speaks for itself. Calculi are hardly to be expected in the period of a pneumonia except in the form of swarms of crystals which may easily cause all the disturbances. I recall a case of long-continued adult diet in a 6-year old boy. His urethra was impacted by crystals which crepitated. Normal diet and much water cured him. Sulfapyridine is going through the same stabilizing process which finally settles all new drugs, especially synthetic chemicals. Urotropin and salvarsan are historic examples. V.C.P.

The Technic of Suprapubic Cystotomy

H. L. WEHRBEIN (*Brooklyn Hospital Journal,* 2:106, April 1940) notes that with the usual method of suprapubic cystotomy, the incision is made high in the bladder and carried downward as far as is considered necessary. In 1937 Kuhlenkampf proposed the use of a low and small incision; with this method the bladder incision, made between two fixation sutures, is only large enough to admit a finger, and is then stretched to permit the indicated intravesical procedure. The author considers that this method has several advantages over the usual technique. Most of the patients for whom suprapubic cystotomy is indicated are elderly and cannot tolerate much operative trauma; the low, small incision involves a minimum of trauma. The bladder is "an exceedingly elastic organ," and small incisions can be "stretched into adequate openings." In the great majority of cases in which suprapubic cystotomy is indicated, the pathological process is at or near the base of the bladder, and in such cases the low incision is ideal. With this technique, the bladder wall is transfixed and incised without displacing the peritoneum. This is easily done, because the empty bladder is not a sphere, but "the shape of a shallow bowl"; the anterior edge of this bowl keeps the peritoneum from descending behind the symphysis; a slight filling of the bladder (150 to 200 c.c.) "rolls the peritoneum away" from the abdominal wall, making the approach to the bladder wall easy. While the bladder should be emptied before operation, there is no objection to distending it at operation with a small amount of air or antiseptic solution. With this technique and with the peritoneum in its normal "empty bladder position," the retropubic cavity is small and there is less danger of widespread infection, for "there is no such thing as an aseptic cystotomy wound." In cases of large vesical tumors or stones, the "stab" incision, even when stretched, may not be large enough; if necessary, it is enlarged transversely. In 25 cases in which this technique was used the time required for

healing of the wound was less than half that in a similar series of 67 cases in which the usual technique was employed.

COMMENT

The points to be noted in this technic are these. The incision is small. The site is just behind the symphysis where the bladder is relatively fixed. These two facts undoubtedly are advantages in the way which the author mentions. ***V.C.P.***

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A New Treatment for Furunculosis

C. G. GRULEE and J. T. MASON (*Journal of Pediatrics,* 16:566, May 1940) report 3 cases of furunculosis in infants and children which were treated with sulfamethylthiazol. In the first case, the infant (a girl) was two and a half months old, when first seen; new furuncles developed almost daily; some were large and deep "abscesses." It was the most severe case of furunculosis that the authors had ever seen; many methods of local therapy were employed, including ultraviolet ray and roentgen rays; and in addition sulfanilamide, oxide of tin, sulfapyridine, autogenous vaccine and staphylococcus toxoid. After the child had been in the hospital eight months, treatment with sulfamethylthiazol was begun; ½ gm. was given every four hours; this dosage was continued for twenty-two days until 66 gm. had been given; during this time all the old furuncles had disappeared and only five new furuncles appeared. The drug was discontinued when there had been no evidence of activity for a week. Two days after discontinuing the drug, two new furuncles developed and sulfamethylthiazol was again given; but after eight days there was a sudden reduction in the percentage of polymorphonuclear cells, and the drug was stopped. There was no recurrence of furuncles and the blood count slowly returned to normal. In another infant seven months old with a less severe type of furunculosis, sulfamethylthiazol in the same dosage produced definite improvement in twenty-four hours; the furuncles were almost completely healed in three and two-thirds days when 11 gm. of the drug had been given; but the drug was continued in smaller dosage (0.064 gm. every four hours) for another nine days until the child was discharged from the hospital. There were no toxic symptoms in this case; the blood count on the day of discharge showed 15,000 leukocytes with normal differential count. In the third case, the patient was a boy seven years of age, with several scalp pustules. The dosage of sulfamethylthiazol in this case was 1 gm. every four hours, given for six days, when the scalp lesions had almost completely healed. The drug was discontinued because of a morbilliform rash which appeared on the seventh day, but disappeared in twenty-four hours; this was undoubtedly a toxic reaction to the drug. Some nausea and vomiting had occurred on the third day, but this cannot be definitely attributed to the drug, as the boy had previously had frequent periods of vomiting. The authors conclude that sulfamethylthiazol is of definite value in the treatment of severe cases of furunculosis in infants, but it must be given under careful supervision. In the case in which a reaction of a serious nature—neutropenia—was observed, the drug had been given for a prolonged period and in large total dosage.

COMMENT

Grulee has shown the value of sulfamethylthiazol in the treatment of furunculosis. Attention must be called to the fact that this drug has been withdrawn due to the reported peripheral neuritis is some cases following its administration. From reports available another sulfanilamide derivative, sulfathi-

azole, shows evidence of being as satisfactory in the treatment of furunculosis as the sulfamethylthiazol. Sulfathiazole is eliminated quite rapidly from the body; therefore in order to maintain the blood level, it is necessary to give the required daily amount divided into 8 doses and administered at 3 hour intervals, day and night. The dosage is the same as that used for sulfanilamide and sulfapyridine.

Recently another derivative of sulfanilamide, named sulfadiazine, has been reported by Roblin et al. (1). Their preliminary experimental studies in mice suggest it is possibly better than any of the chemotherapeutic agents against the staphylococcal infections. Let us hope further study of sulfadiazine will prove it a better and safer chemotherapeutic agent than any we have to date. **O.L.S.**

Treatment of Tetany of the Newborn Infant with Dihydrotachysterol

A. BLOXSON (*Journal of Pediatrics,* 16:344, March 1940) reports a case in an infant, who was normal until the fourth week of life, then developed twitching and "choking spells"; the Chovstek sign was positive, the reflexes hyperactive. The blood calcium was 5.4 mg. per 100 c.c. and the phosphorus 6.2 mg. Fifteen drops of viosterol were given daily and calcium gluconate added to the milk; but the infant failed to improve, and another blood analysis showed the calcium had not increased, but had dropped to 4.7 mg. per 100 c.c., although the phosphorus had also decreased to 4.8 mg. Tests of the urine with Sulkowitch's reagent showed that no calcium was being excreted. As the tetany was considered to be of parathyroid origin, dihydrotachysterol was given; the initial dose was 5 drops three times daily, which was later increased to 10 drops and then to 15 drops three times a day. Only with the latter dosage was there a definite improvement in symptoms and a rise in the blood calcium to 11.4 mg. per 100 c.c. Calcium also appeared in the urine. When the urine showed a heavy precipitate of calcium, the dosage of dihydrotachysterol was decreased to 5 drops three times daily, but this was followed by a recurrence of the choking spells; the dosage was raised to 10 drops three times daily until the calcium precipitate in the urine was sufficiently heavy (showing "a fine white cloud"); then the dosage was reduced by one drop three times daily. The calcium and viosterol were continued, and there was no recurrence of symptoms when the dihydrotachysterol was finally discontinued. Although the dosage of dihydrotachysterol employed in this case was large, it caused no untoward symptoms. The infant continued to do well, and x-ray examination of the wrist bones at the age of three months showed calcification to be normal.

(1) Roblin, R. O., Williams, J. H., Winnek, P. S., English, J. P. July 1940 issue of *Journal of the American Chemical Society.* In press.

Acute Necrosis of the Liver in Infants Following Sodium Bismuth Thioglycollate Administration

I. J. WOLMAN (*American Journal of Syphilis,* 24:330, May 1940) reports 2 cases in which injections of sodium bismuth thioglycollate were given infants because the mother was known to have syphilis and had been given treatment during pregnancy. In one case the first injection and in the other case the tenth injection was followed by symptoms of acute necrosis of the liver and death; in the second case there was also evidence of kidney damage. Neither of these infants showed any signs or symptoms of congenital syphilis; in the first case no blood serological studies had been carried out; in the second case the umbilical cord blood had given a slightly positive Wassermann and doubtful Kahn reaction. The author is of the opinion that "one cannot condemn too strongly" the administration of antisyphilitic therapy to children of infected mothers before signs of congenital syphilis become evident. In addition to the danger of fatal toxic drug reactions such as those reported, which are relatively rare, there is the greater danger of "masking latent infection with subsequent inadequate or uncompleted treatment."

Mumps Meningo-Encephalitis

S. H. TABOR and B. NEWMAN (*Archives of Pediatrics,* 57:133, March 1940) note that the involvement of the central nervous system in mumps has long been recognized. They report 29 cases of

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MEDICAL BOOK NEWS

• *All books for review and communications concerning Book News should be addressed to the Editor of this department, 1313 Bedford Avenue, Brooklyn, N. Y.*

Edited by Alfred E. Shipley, M.D., Dr. P.H.

Blumer's New Work on Treatment

THE THERAPEUTICS OF INTERNAL DISEASES. Volumes I and II edited by George Blumer, M.D. New York, D. Appleton-Century Company, [c. 1940]. 4to. Illustrated. Cloth, $10.00 per volume.

A SYSTEM of Therapeutics of this scope is difficult to review. Suffice it to say that a high level of excellence is achieved in these two volumes, and that the able editorship of George Blumer is the guarantee of high rating for the complete work.

Volume I carries an introduction by the editor, with warnings against ballyhoo, high-powered detail men, inadequate statistics, and the pharmacological laboratory, and a plea for more careful clinical study of drugs. In other words, caution, thought and analysis.

As expected, nutrition, climatology, spas, hydrotherapy, heat, light and mechanotherapy, electrotherapy, physiotherapy, radiotherapy, occupational therapy, gases, endocrines, sera, vaccines, non-specific therapy, bacteriophage, psycho-therapy and methods of drug administration, blood transfusion, spinal puncture and paracentesis appear in Volume I.

Volume II opens with 358 pages devoted to pharmacology, a modern "materia medica" by Louis S. Goodman of Yale. This is splendidly presented, and could be scanned by any physician with much benefit. This is followed by 100 pages dealing with toxicology.

Then in detail is the treatment of infectious diseases. The volume can be opened to any page and there read with profit. Opinions are definitely quoted, differences are scholarly balanced, clinical advice abounds.

To the practitioner the uniformly sound observations and therapeutic suggestions will appeal. The work can be recommended.

FRANK BETHEL CROSS.

SIR ASTLEY COOPER
1768 - 1841

Classical Quotations

• **In all the examinations which I have made of transverse fractures of the cervix femoris, entirely within the capsular ligament, I have never met with a bony union, or of any which did not admit of motion of one bone upon the other. To deny its possibility, would be presumptuous, . . .**

Sir Astley Cooper
Surgical Essays, 1818-20.

New Edition of Wolf's Endocrines

ENDOCRINOLOGY IN MODERN PRACTICE. By William Wolf, M.D. Second edition. Philadelphia, W. B. Saunders Company, [c. 1939]. 1077 pages, illustrated. 8vo. Cloth, $10.00.

THE second edition of Wolf's Endocrinology has been brought up to date by the addition of chapters on hypoglycemia, protamin insulin, vitamines in relation to endocrinology, and on new diagnostic procedures such as endometrial biopsies.

This edition contains the favorable points and short comings of the previous

edition. The literature on the subject is adequately covered, and presented in an interesting and readable manner. The arrangement is essentially that of the first edition, and includes portions which should appeal to the physician who wishes to get the high spots quickly. The value of the book as a reference would have been enhanced by the inclusion of a bibliography.

It is recommended for the general practitioner and for those interested in endocrinology.

MURRAY B. GORDON.

Diagnostic Features In Surgery

DEMONSTRATIONS OF PHYSICAL SIGNS IN CLINICAL SURGERY. By Hamilton Bailey, F.R.C.S. Seventh edition. Baltimore, Williams & Wilkins Company, [c. 1940]. 310 pages, illustrated. 8vo. Cloth, $6.50.

THIS well known work is now in its seventh edition since it was first published in 1927. It remains the best of its kind in the opinion of this reviewer.

The book is unique in its scope, being devoted to the demonstration of physical signs in surgery. This is accomplished with thoroughness and clarity.

The printing is excellent. Many illustrations have been added, some in color.

This book should be in the library of every physician.

MAYER E. ROSS.

The Infectious Diseases

MAN AGAINST MICROBE. By Joseph W. Bigger, M.D. New York, The Macmillan Company, [c. 1939]. 304 pages, illustrated. 8vo. Cloth, $2.50.

THE author in his preface states that "I once believed that it was very easy to write a popular book on a scientific subject; I now know how erroneous was my belief." Professor Bigger has, however, produced a very interesting and highly instructive book. Part One: The Meaning of Microbiology, consists of nine chapters devoted to a discussion of the cultivation, identification and biological and chemical properties of bacteria. There is also a good account of the manner in which microbes infect man, and the response on the part of the body to rid itself of these noxious agents. Part Two deals with the history of microbiology, and in this portion the reader will find many interesting facts concerning Needham, Spallanzani, Pouchet, Pasteur, Koch and Ehrlich. Part Three sets forth the epidemiological problems concerned in the transmission of infectious diseases.

The entire volume would make a good reading text for nurses and technicians. Indeed, anyone interested in infectious diseases would profit by spending some time with this book.

MORRIS L. RAKIETEN.

Neoplasms of the Extremities

TUMORS OF THE HANDS AND FEET. Edited by George T. Pack, M.D. St. Louis, C. V. Mosby Company [c. 1939]. 138 pages, illustrated. 4to. Cloth, $3.00.

THIS single well illustrated volume appears as a greatly needed additional armamentarium to our knowledge concerning the diagnosis and treatment of lesions of the hands and feet. Much has been written concerning infections, injuries, and malformations of the hands and feet. This book concerns itself entirely, however, with the various types of tumors of the extremities.

The work originally appeared as a symposium on tumors in *Surgery*. It now appears as a separate volume, and includes articles by various authors under the following headings: "Carcinoma of the Hands and Feet" by Dr. Michael L. Mason of Chicago. "Subungual Melanoma" by Drs. George T. Pack and Frank E. Adair of New York City; "Angiomatous Tumors of the Hands and Feet" by Drs. Ashley W. Oughterson, and Robert Tennant of New Haven; "Tumors of the Synovia, Tendons, and Joint Capsules of the Hands and Feet" by Dr. Alex-

ander Brunschwig of Chicago; "Tumors Primary in the Bones of the Hands and Feet" by Drs. Bradley L. Coley and Norman S. Higinbotham of New York City.

Even though tumors of the extremities are relatively rare compared with their occurrence in other parts of the body, the fact that the hand is so important from an economic standpoint makes the publication of this book well justified. The text is properly supplemented by the insertion of many clinical case reports illustrative of the disease under discussion.

This book is highly recommended for the use of the general surgeon as well as for those who are interested in industrial surgery.

MERRILL N. FOOTE.

Diseases of Virus Origin

VIRUSES AND VIRUS DISEASES. By Thomas M. Rivers, M.D. (Lane Medical Lectures.) Stanford University, Stanford University Press, [c. 1939]. 133 pages, illustrated. 4to. Cloth, $2.50.

THE first of the five lectures gives essentially a report on the author's investigations on the virus of lymphocytic choriomeningitis. The other lectures are of a more general character, and deal with the pathology, the immunology, the prevention and treatment of virus diseases, and the nature of viruses. The presentation of the subject is characterized by its clarity and simplicity.

ULRICH FRIEDEMANN.

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Jewish Physicians and American Medicine

JEWISH CONTRIBUTIONS TO MEDICINE IN AMERICA. From Colonial Times to the Present. By Solomon R. Kagan, M.D. Second edition. Boston, Boston Medical Publishing Company, [c. 1939]. 790 pages, illustrated. 8vo. Cloth, $3.50.

THIS volume is a revised edition of a book first published in 1934. It has been considerably amplified, and contains a large amount of new information. The comprehensive index of names, as well as the many bibliographies and portraits, makes it a useful handy reference work for anyone interested in the contributions of Jewish physicians.

GEORGE ROSEN.

Harvey Cushing's Essays

THE MEDICAL CAREER AND OTHER PAPERS. By Harvey Cushing. Boston, Little, Brown and Company, [c. 1940]. 302 pages. 8vo. Cloth, $2.50.

TRULY, if the American profession in recent years can be said to have included a gentleman and a scholar, such an individual was Harvey Cushing. His most recent book of essays, entitled *The Medical Career*, maintains the scholarship and enjoyable literary quality of his former essays and biographies. Factual information concerning great medical figures of the past is presented in a fascinating and readable form. The men of whom he writes are virile and human. Their spirit of service to the profession and to their time is gracefully reflected. To those who enjoy beautiful English, medical history or medical biographies, Doctor Cushing's last collection of essays will prove to be a veritable delight.

FRANK L. BABBOTT.

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Two Simple Guides for the Diabetic

MODERN DIABETIC CARE. Including Instructions in the Diet and the Use of the Old and New Insulins. By Herbert Pollack, M.D. New York, Harcourt, Brace and Company, [c. 1940]. 216 pages, illustrated. 8vo. Cloth, $2.00.

THIS book is written in two parts, one from the strictly medical angle discussing the history, symptomatology and the treatment of diabetes. The other part is devoted exclusively to nutrition and dietary preparations.

Although containing nothing new this book is well arranged and readable for the average, present-day diabetic. Several chapters of an advisory nature deal with the young diabetic and his occupations, and contain advice on pregnancy and general daily problems that might occur. Although not new this justifies repetition because of the ever present problems of the diabetic. The nutritional and dietary part and the tables in the appendix are routine necessities in all such works.

This book is recommended for lay consumption.

MORRIS ANT.

SIMPLIFIED DIABETIC MANAGEMENT. By Joseph T. Beardwood, Jr., M.D., and Herbert T. Kelly, M.D. Third edition revised. Philadelphia, J. B. Lippincott Company, [c. 1939)]. 221 pages, illustrated. 12mo. Cloth, $1.50.

THE authors have prepared a manual for the lay diabetic. In it they sponsor a food unit scheme called the "line-ration scheme." According to this line-ration scheme, Unit A represents 5 gms. of carbohydrate and 1 gm. of protein, equal to 24 calories. Unit B, contains 5 gms. of protein and 10 gms. of fat, equal to 110 calories. The authors give a list of the foods and the various unit combinations.

This mathematical scheme is introduced to the diabetic in an effort of simplification; unfortunately it only tends to confuse the patient. Even very intelligent patients like simplicity in figures. Equations may be good for students but how many graduates use them or care to use them? If charts and schemes had any popularity there would be very few patients left in the clinics. Experience shows that once a diet sheet is given with a simple list of foods and their percentages for the patients' own choice, within a short time the patient is off the diet.

The authors have put much labor into this manual. We feel however, that the material is too technical for the average diabetic.

MORRIS ANT.

A Good Book for the Laity

GOOD HEALTH AND BAD MEDICINE. A Family Medical Guide. By Harold Aaron, M.D. New York, Robert M. McBride and Company, [c. 1940]. 328 pages. 8vo. Cloth, $3.00.

MOST books about health tell of medical progress in science, treatment, and research. The author aims "to tell the ordinary consumer what to do—and what not to do—about his own personal, private ills." In closing he says, "If consumers learn from this book that medical 'advice' appearing in advertising should be taken with the proverbial grain of salt," then he will have succeeded.

He has succeeded in clearly and simply putting the known facts before his reader and in doing an excellent job of warning against the twin sins of self-diagnosis, self medication and of enlightening the gullible. With an excellent index in which to find most important items from abdominal belts to zinc stearate, the "consumer" can guide himself safely and when needed to the medical supervision required.

Physicians should read it and suggest it to their patients. Great good can come of its wide circulation.

ALEC N. THOMSON.

A Diagnostic Guide

ESSENTIALS OF THE DIAGNOSTIC EXAMINATION. By John B. Youmans, M.D. New York, The Commonwealth Fund, [c. 1940]. 417 pages, illustrated. 12mo. Cloth, $3.00.

FOR compactness, thoroughness, and inclusion of only the important essentials, we know of no volume which equals the present one. The blood sections are particularly good. We warmly recommend this guide to the physical and laboratory examination of the patient.

ANDREW M. BABEY.

Sexual Pathology

SEXUAL DISORDERS IN THE MALE. By Kenneth Walker, F.R.C.S. and Eric B. Strauss, D.M. Baltimore, Williams & Wilkins Company, [c. 1939]. 248 pages, illustrated. 8vo. Cloth, $3.00.

THIS brief work of some two hundred pages represents a modern and rational consideration of the varied disorders of sex function in the male. The author believes that somewhere near ninety per cent of these disorders or deviations are psychopathological in nature. For this reason, he has wisely collaborated with a psychiatrist in the preparation of the valued material contained within its pages. Due consideration is also given to the medical and surgical treatment in those classes of patients where they are definitely indicated. He employs the term "primary impotence" to designate the psychogenic form and "secondary impotence" to indicate the organic form. The physiology of sex, difficulties in marriage, as well as the fundamental considerations of development with the various deviations are considered.

Although intended for the student and practitioner, the work should prove useful to all of those in the profession who are interested in the subject.

A list of references is appended.

AUGUSTUS HARRIS.

Plant Viruses

HANDBOOK OF PHYTOPATHOGENIC VIRUSES. By Francis O. Holmes. Minneapolis, Burgess Publishing Company, [c. 1939]. 221 pages. 8vo. Paper, $2.00.

A WORKING classification of plant viruses has been adequately satisfied by the system presented in this handbook. Besides an original taxonomic listing, descriptions, and phytopathologic effects, source literature is extensively and clearly quoted. At least one hundred twenty-nine viruses are described. Lists of plant susceptibility and of viruses less generally known form supplements. The other supplement concerns bacteriophages (Genus Phagus) and naturally is of more interest to the physician than the major work. The general result is a modern, unique, and encyclopedic manual of stimulating usefulness in its field. Incidentally, the format is a beautiful example of varityper offset printing and celluloid clip binding.

IRVING M. DERBY.

Breast Hygiene

THE COMPLETE GUIDE TO BUST CULTURE. By A. F. Niemoeller, A.B. New York, Harvest House. [c. 1939]. 160 pages, illustrated. 8vo. Cloth, $3.50.

THE book deals with breast hygiene in all its details. Many valuable suggestions for the care of the normal and abnormal breast are made by the author.

It is intended solely for the laity.

ALEXANDER H. ROSENTHAL.

BOOKS RECEIVED *for review are promptly acknowledged in this column; we assume no other obligation in return for the courtesy of those sending us the same. In most cases, review notes will be promptly published shortly after acknowledgment of receipt has been made in this column.*

Arthritis and Allied Conditions. By Bernard I. Comroe, M.D. Philadelphia, Lea & Febiger, [c. 1940]. 752 pages, illustrated. 8vo. Cloth, $8.50.

Differential Diagnosis in Internal Medicine. By Prof. Dr. Med. O. Naegeli. Authorized English Translation by Simon B. Spilberg, M.D. Chicago, S. B. Debour, Publishers, [c. 1940]. 726 pages, illustrated. 4to. Cloth, $10.00.

Chemotherapy and Serum Therapy of Pneumonia. By Frederick T. Lord, M.D., Elliott S. Robinson, M.D. and Roderick Heffron, M.D. New York, The Commonwealth Fund, [c. 1940]. 174 pages, illustrated. 8vo. Cloth, $1.00.

Women Will Be Doctors. By Hannah Lees. New York, Random House, [c. 1940]. 271 pages. 8vo. Cloth, $2.00.

Some Gleanings from Life. By Dr. Robert E. Truhlar. Boston, The Christopher Publishing House, [c. 1940]. 251 pages. 12mo. Cloth, $2.00.

Biochemistry of Disease. By Meyer Bodansky, M.D. and Oscar Bodansky, M.D. New York, Macmillan Company, [c. 1940]. 684 pages, illustrated. 8vo. Cloth, $8.00.

The Unseen Plague: Chronic Disease. By Ernst P. Boas, M.D. New York, J. J. Augustin Publisher, [c. 1940]. 121 pages. 8vo. Cloth, $2.00.

Minor Surgery. By Frederick Christopher, M.D. Fourth edition. Philadelphia, W. B. Saunders Co., [c. 1940]. 990 pages, illustrated. 8vo. Cloth, $10.00.

Health Is Wealth. By Paul de Kruif. New York, Harcourt, Brace and Company, [c. 1940]. 246 pages. 8vo. Cloth, $2.00.

Textbook of Healthful Living. By Harold S. Diehl, M.D. Second edition. New York, McGraw-Hill Book Company, [c. 1939]. 634 pages, illustrated. 8vo. Cloth, $2.50.

Cyclopropane Anesthesia. By Benjamin H. Robbins, M.D. Baltimore, Williams & Wilkins Company, [c. 1940]. 175 pages, illustrated. 8vo. Cloth, $3.00.

Electrocardiography. By Chauncey C. Maher, M.D. and Paul H. Wosika, M.D. Third edition. Baltimore, Williams & Wilkins Company, [c. 1940]. 334 pages, illustrated. 4to. Cloth, $4.00.

The Compleat Pediatrician. For the use of Medical Students, Internes, General Practitioners, and Pediatrists. By Wilburt C. Davison, M.D. Third edition. Durham, Duke University Press, [c. 1940]. 256 pages. 8vo. Cloth, $3.75.

BACTERIOPHAGE

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attack only members of that particular group. In other words Friedländer Type A strains are susceptible to phages which attack only those strains, and are not susceptible to phages which lyse Type B and Type C strains. Phages therefore may be a useful aid in classifying these organisms. Secondary cultures do not possess this specificity and are susceptible to phages which have no effect on the smooth strains.

Discussion

DOCTOR Caspar Burn: I think Doctor Rakieten should be congratulated upon isolating a bacteriophage for a mucoid strain of Friedländer bacillus. Many investigators have attempted to isolate a phage for mucoid organisms, but as a

rule without any success. This was my experience several years ago.

The double zone effect that is described is of interest. I feel that there are two types of action demonstrated in these cultures. One is that of the true bacteriophage which lyses the culture completely and the other is an enzymatic reaction that is liberated from the organisms themselves. I feel this is not a true phage action, as it is characterized by a slowly progressive alteration in the bacteria without complete lysis of them and also it takes place without the active stage of bacterial growth. Moreover, it diffuses throughout the agar so that it spreads to other surface cultures even though there is an intervening space without bacterial growth.

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CONTEMPORARY PROGRESS

—Concluded from page 342

meningo-encephalitis complicating mumps observed in a five year period (1934 to 1939) at the Kingston Avenue Hospital, Brooklyn; the incidence was about 4 per cent of all cases of mumps admitted to the hospital in the same period. The majority of the patients were from five to ten years of age; only 5 were females; this preponderance of mumps meningo-encephalitis in males has been noted by others. It is of interest that two of the patients were brothers, five and seven years of age. Only 2 of the patients also had an orchitis. All of the patients showed some parotid swelling during the course of the illness; in 2 cases, however, the meningeal symptoms developed first, which makes the diagnosis difficult. The most common symptoms were nausea, vomiting and severe headache; nuchal rigidity was observed in 26 cases, a positive Kernig in only 10 cases. Abnormal reflexes, such as Babinski, were observed in several cases. Lumbar puncture was done in 26 cases; in all but 2 instances, the spinal fluid showed a lymphocytic pleocytosis; in 3 cases there were less than 100 cells; the highest cell count in this series was 2000; the spinal fluid was sterile on culture in every case. Treatment consisted in lumbar puncture and "supportive measures." Although some of the patients appeared seriously ill on admission, all recovered within a week to ten days. Nine of the patients were followed up for some time after discharge from the hospital; and most of them showed some slight psychological or neurological sequelae.

Hands and Wrists of the Diabetic Child; A Roentgenological Study

I. K. BOGAN (*American Journal of Diseases of Children,* 59:805, Apr. 1940) reports a roentgenological study of the hands and wrists in 169 diabetic children (95 boys and 74 girls). The hands and wrists were selected for study because more centers of ossification are present than in any other region, and because excellent standards of comparison are available. Both hands were studied in all cases, and in some instances differences between the two hands were observed, such as delayed appearance or delayed development of a center of ossification in one hand with a normal center in the other. The roentgenograms were "assessed" by Todel's and by Flory's standards to ascertain the osseous age. The osseous and the chronological ages were the same or varied less than six months, plus or minus, in 25.9 per cent of the boys and 33.2 per cent of the girls. The osseous development was accelerated in relation to the chronological age in 13.8 per cent of the boys and 15.6 per cent of the girls. Retardation in osseous development in relation to chronological age was of more frequent occurrence, in 60.2 per cent of the boys and 51.1 per cent of the girls. The longer the duration of the diabetes, the greater was the tendency to retardation; retardation was noted in all boys with diabetes of more than thirteen years, and in all girls with diabetes of more than nine years. In 20.7 per cent of the series, the retardation of osseous development was more than two years. These facts indicate that diabetes plays some part in the delayed development.

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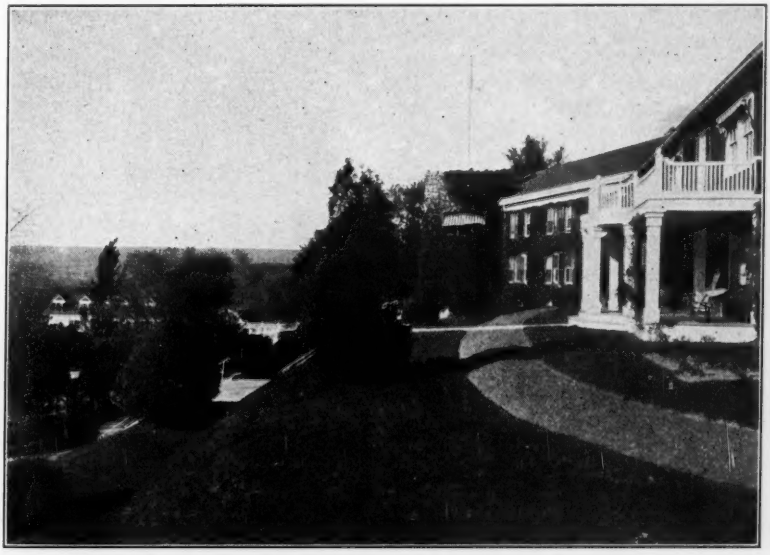

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Medical Times

Dietetic Digest

THE increased importance of the field of nutrition has prompted a review of the progress of the medical sciences in dietetics and nutrition. Each month in these pages is presented the current literature in this field, abstracted by

Madeline Oxford Holland, B.Sc., D.Sc.

Dietary Minerals

MACY, Hummel, Hunscher, Shepherd, Souders and others report in the *Journal of Nutrition* (*19*, 461 (1940) ₫5) on the effects of simple dietary alterations upon retention of positive and negative minerals by children. The subjects chosen were 9 children of 5-8 years of age, 4 being girls and five boys. These children had been observed physiologically and medically and were known to be in favorable nutritive condition.

Metabolic studies were made on the children during pre-experimental and experimental periods ranging from 20 to 55 consecutive days for each child, a total of 640 days.

By chemical analyses it was shown that conservative substitution of foods such as apple, banana and cereal in an otherwise constant daily mixed diet on the basis of either the total mineral ash value, the total positive minerals, or even doubling the alkaline-ash values, cannot be effected without changing the proportions of other equally important dietary components such as calories, nitrogen, fat and the proportions of the inorganic elements within the positive or negative mineral groups, any one of which might change the trend of metabolism and subsequent retentions.

Judged by increases in the individuals' height and weight, and retentions on a unit weight basis of grams nitrogen and milliequivalents of total mineral ions one hundred grams of banana or roughly one medium-sized banana was more effective than the same amount of apple or 30 Gm. of cereal. Such a growth performance was accomplished in spite of the maintenance on a unit weight basis of approximately a constant daily intake of total positive and negative minerals during both the high and low banana periods, and an alkaline-ash value for the intakes almost doubled during the experimental period. In one group of the children there was an increased storage of cations with subsequent greater skeletal formation initiated; others showed a stronger tendency toward soft tissue indicating increased storage of nitrogen with either an increased retention of anions or a reduction in retention of cations. Some of the children showed an equal development of both types of tissue.

From the investigation it was concluded that the dietary changes did not significantly alter the total mineral intakes thus corroborating Shohl's conclusion that individual elements or certain groups of elements are more important than the total since they perform separate functions in the body economy.

Vitamin B_6

ALTHOUGH vitamin B_6 is not considered a specific in patients suffering from pellagra complicated by macrocytic or pernicious anemia it is believed to possess some benefit in such cases. Vilter, Schiro and Spies in *Nature* (*145*, 388 (1940) ₫3671) report the administration daily of 50 to 100 mg. (for a period of ten days) of crystalline vitamin B_6 dissolved in sterile physiological saline solution to 2 subjects suffering from pernicious anemia and to 3 subjects having pellagra as well as macrocytic anemia. An

—Continued on page XX

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improvement in strength was noticed within the first 48 hours of the treatment. A reticulocytosis not over 5% was observed between the fifth and ninth days accompanied by a general increase in leucocytes particularly the polymorphonuclear cells. The vitamin in quantities of 100 mg. after incubation with 100 cc. of normal fasting human gastric juice when administered orally produced similar results.

Vitamin B_p

A PROVISIONALLY labelled vitamin B_p member of the large family of B vitamins concerned with the development and shape of bones was described at the recent meetings of the New Orleans meetings of Biological Societies by Hogan, Richardson, and Patrick. Growing chicks develop a disease known as perosis commonly called slip tendon. Existence of the vitamin is so recent that its existence for other than the prevention of perosis is not known. The chemical, manganese, had been established as a preventive of this condition when fed liberally. By making an investigation of chicks that developed slipped tendon condition, even on diets well fortified with maganese led to the discovery of the new vitamin in the vitamin B food sources.

Carbohydrate Combustion

CARPENTER in the *Journal of Nutrition (19, 423 (1940) $5)* reports on studies made of the combustion of carbohydrates in man. Measurements of total respiratory exchange and urinary nitrogen elimination of a man before and after ingestion of portions of common foods, each containing approximately 25 Gm. of available carbohydrates were made. From these results was calculated the carbohydrate combustion in the post-absorptive condition and in 12 successive 15-minute periods immediately after food ingestion. There was a great difference in the amounts required of several foods to provide 25 Gm. of available carbohydrates. The greater the amounts of reducing and hydrolyzable sugars in the foods, the greater was the increase in carbohydrates combustion during the 3 hours following food ingestion. The increase was smaller with greater amounts of starch or fat in the foods. Boiled parsnips, beets, carrots and squash caused the greatest increases being considered as sweet vegetables. The smallest increases were caused by nuts, rice, macaroni, white potato and bread. Raw carrots caused a greater combustion of carbohydrates than cooked carrots with just the opposite true in the case of white potatoes. Cane sugar and dates caused a sudden and marked but quickly passing increase. The effect of glucose was slower and less marked but more prodrates in parsnips were consumed first, the more complex carbohydrates then being liberated and made available. Small but continuous increases in carbohydrate combustion were shown with nuts, being somewhat greater with cashew nuts.

Frosted Foods

THE *Council on Foods of the A. M. A.* has voted to give consideration to quick-frozen vegetables and fruits for the list of accepted foods. Such action was taken as a result of a report by Rose on the nutritive value of quick-frozen foods. The process of quick-freezing of foods makes available for the consumer fresh foods, free from inedible waste and stored at cold temperatures until delivered. The process considerably reduces the number of micro-organisms in food thus preserving them for a longer period of time. Refreezing of these products once they have been defrosted is not safe but there is very little danger from such foods when frozen and stored at temperatures below 32° F. Quick freezing conserves the vitamin A values in foods and does not affect the vitamin B_1 content although such content is considerably diminished by blanching of vegetables in preparing them for freezing. Such blanching should be done in as short a period as possible in order to save the vitamin B_1 content. There is very little and possibly no loss of vitamin G or riboflavin by freezing. In fruits vitamin C or

ascorbic acid is preserved by quick freezing and subsequent storage at low temperatures but is destroyed in vegetables due to the blanching process during which the ascorbic acid oxidase may be partly or completely destroyed and due to conditions under which the vegetables are allowed to thaw. Such loss of vitamin C due to the latter cause may be avoided by cooking without defrosting.

Insulin Reduction by Copper

PISKOZUB in *Comptes rendus société de biologie* (*133*, 307 (1940) #2) suggests the use of copper sulfate in small doses to reduce the dose of insulin necessary in diabetic cases. It was found that the blood sugar level in men and dogs with diabetes was lowered by administration of copper sulfate. The author believes that the chemical acts by increasing the difficulty in glycogen synthesis in the body and subsequently reducing the quantity which accumulates in the liver.

Natural Vitamin K Concentrate

NATURALLY occurring vitamin K, the anti-hemorrhagic factor, obtained from alfalfa and dissolved in corn oil, is now being supplied by E. R. Squibb & Sons, of New York.

Clinical studies show that vitamin K is indicated whenever the prothrombin content of the blood is below normal as evidenced by a longer than normal "prothrombin clotting time." Prothrombin deficiency is most apt to occur in patients with obstructive jaundice and biliary fistula. In a number of intestinal disorders there is a tendency for the prothrombin content of the blood to be abnormally low, and this is also a common occurrence in infants during the first few days after birth. Women at term and the infant are both likely to have a prothrombin deficiency. As a consequence hemorrhage at birth is common and may be a serious and even fatal complication.

EDWARD T. BISCHOFF

EDWARD T. Bischoff, president of Ernst Bischoff Company, Incorporated, of Ivoryton, Connecticut, manufacturers of pharmaceutical and textile mill specialties, died on May 25th, 1940 at New Haven Hospital, New Haven, Connecticut, after a short illness.

Mr. Bischoff, was thirty years old and a graduate of the Philadelphia Textile High School.

Birth Rates in the United States

THE United States birth rate dipped slightly last year after rising in 1937 and 1938, according to preliminary tabulations of the Census Bureau, Department of Commerce.

A total of 2,262,726 births occurred last year, resulting in a birth rate of 17.4 births per each 1,000 estimated population. In 1938, the birth rate was 17.6, based on 2,286,962 births. The rate in 1937 was 17.0.

The preliminary 1939 rate is approximately 5 per cent higher than the lowest birth rate recorded in the history of the birth registration area established by the Census Bureau in 1915. The low point was in 1933 when the rate was 16.5. Census officials cautioned that the slight increase reported in recent years cannot be taken as assurance that the gradual decline of the birth rate has been checked.

New Mexico, with a rate of 33.7, had the highest birth rate reported last year. Other states with high birth rates were Arizona, 26.0, Mississippi, 25.6, and Utah, 25.1.

The lowest preliminary rate reported last year was New Jersey where the rate was 13.0. Other states that had low birth rates were Connecticut, 13.5, Massachusetts, 13.6, and New York, 14.4.

Sixteen states and the District of Columbia showed an increase in the birth rate last year over 1938. A decrease during the same period was reported by twenty-seven states, and in five states there was no change. Greatest increases in the birth rate were reported for the District of Columbia, Delaware, Florida, and South Carolina. Largest decreases were shown in Mississippi, Arkansas, and Illinois.

American Congress of Physical Therapy

THE 19th annual scientific and clinical session of the American Congress of Physical Therapy will be held September 2, 3, 4, 5, and 6, 1940, at the Hotel Statler, Cleveland, Ohio.

The mornings will be devoted to the an-

nual instruction course, enabling attendance at both the course and scientific sessions which will be given in the afternoons and evenings. This will minimize the time element and permit attendance at both functions during the same week. The seminar and convention proper will be open to physicians and qualified technicians.

Numerous new features will be manifest in the 1940 program. While every phase of physical therapy will be covered in the general program, special emphasis will be laid on the use of physical measures in general practice. Symposia dealing with light, heat and electricity as important therapeutic adjuvants in general medical and surgical practice will appeal to every physician interested in modern therapy.

For information concerning the seminar and preliminary program of the convention proper, address American Congress of Physical Therapy, 30 North Michigan Avenue, Chicago.

MEDICAL *(advertisers index)* TIMES

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NEWS AND NOTES

American Public Health Association

THE 69th Annual Meeting of the American Public Health Association will be held in Detroit, Michigan, October 8-11, with the Book-Cadillac Hotel as headquarters.

The Michigan Public Health Association, the American School Health Association, the International Society of Medical Health Officers, the Association of Women in Public Health, and a number of other allied and related organizations will meet in conjunction with the Association.

The Michigan Committee on Arrangements is headed by Mr. Abner Larned of Detroit. Dr. Henry F. Vaughan, Health Commissioner of Detroit, is Executive Secretary.

✚

The Annual Meeting of the American Public Health Association is the largest and most important health convention held on this continent. It will bring 3500 health officials to Detroit for a series of scientific meetings covering all phases of health protection and promotion. A Health Exhibit will be held in connection with the meeting and an Institute on Health Education is scheduled prior to the official opening.

Dr. Reginald M. Atwater is Executive Secretary of the American Public Health Association, with offices at 50 West 50th Street, New York City.

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